



ASSESSMENT REPORT OF THE MEMORY PROFILE

Full name: Markel Anónimo

Gender: Male

Age: 16

Execution of the test: 04/02/2022 14:34

This report is intended to be used by the test administrator as an interpretive aid. This is an orientative report.



Full name: Markel Anónimo
Gender: Male
Date of birth: 13/03/2005
Age: 16 years

Execution of the test: 04/02/2022 14:34
Duration of the test
Suite 1: 16m 7s
Suite 2: 4m 32s
Time between parts: 27m 26s
Scale used: 13-26 Male

Previous notes:

No previous comments

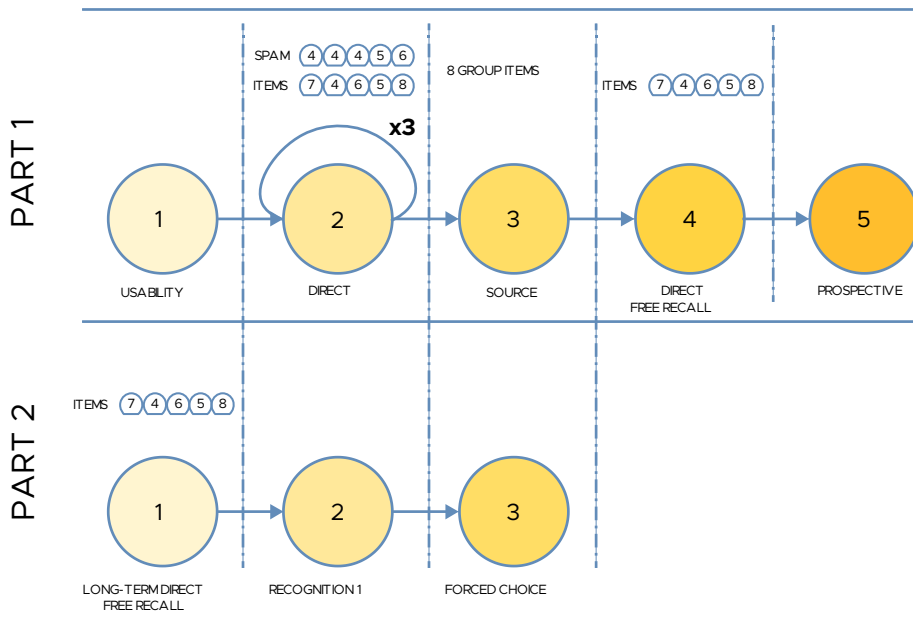
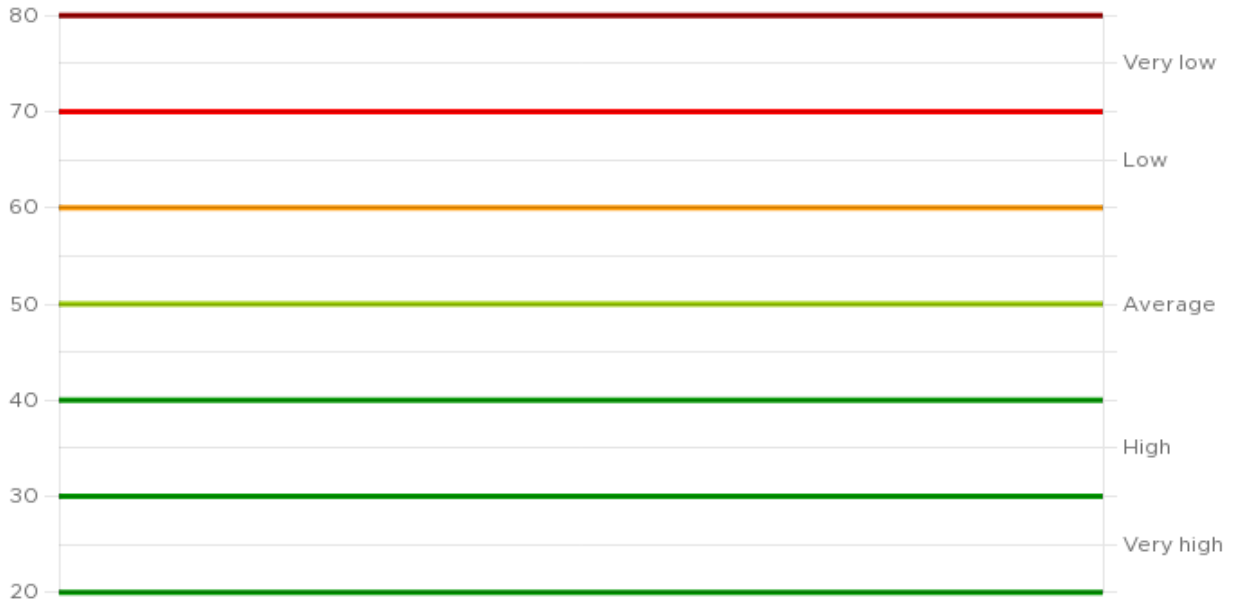
Subsequent notes:

No comments following the test

NESPLORA SUITE ASSESMENT REPORT

Nesplora Suite is a memory test that takes place in the virtual environment of a furniture store and is shown through a virtual reality headset, provided with motion sensors that update the perspective giving a sense of immersion. It is necessary to use headphones and the push button to respond to the tasks. The test begins by presenting the different pieces of furniture and continues exhibiting different families on a monitor located in the back of the store. The families make furniture orders (lists) and the task is to visually search for the pieces of furniture, point to them and click on them trying to complete the requested list.

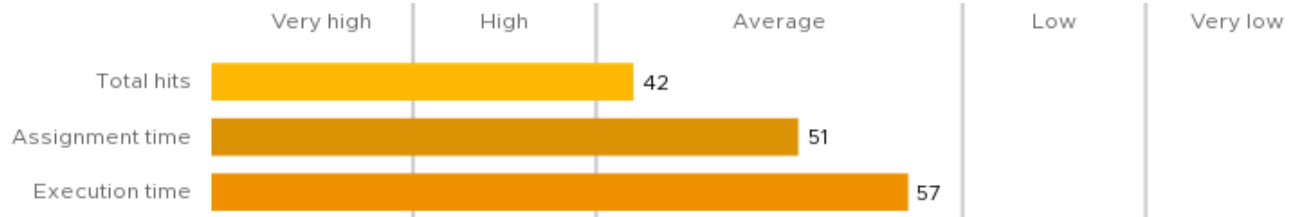
The different scores obtained in the execution are presented both in time and in hits/errors. These scores are presented in Raw scores, Percentiles, T scores and qualitative scores (Performance: very low, low, normal, high and very high), with the graphs showing T scores (Average=50 Standard deviation=10).



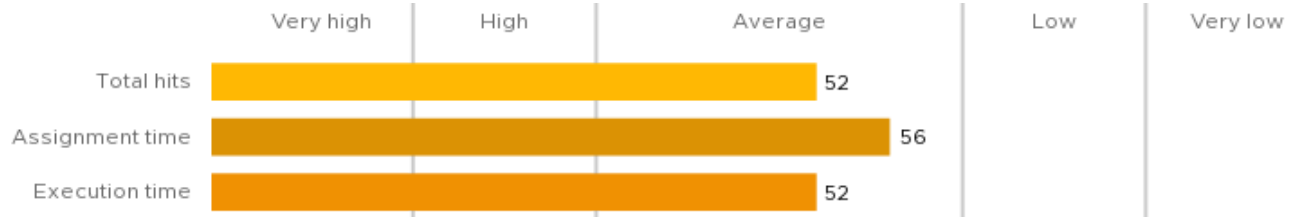
For a better interpretation of the report, it is recommended to consult the Nesplora Suite manual.

SUMMARY TABLE

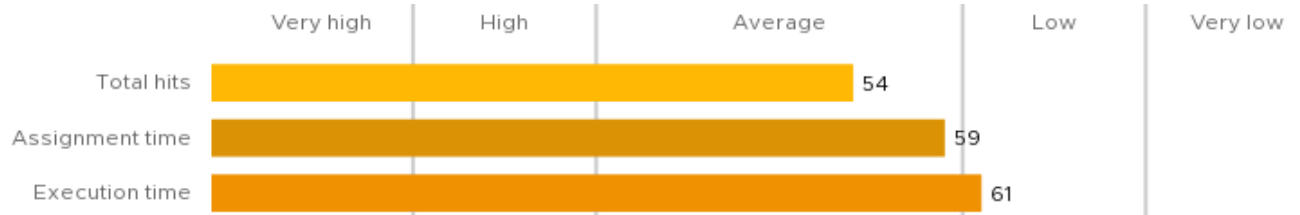
IMMEDIATE MEMORY



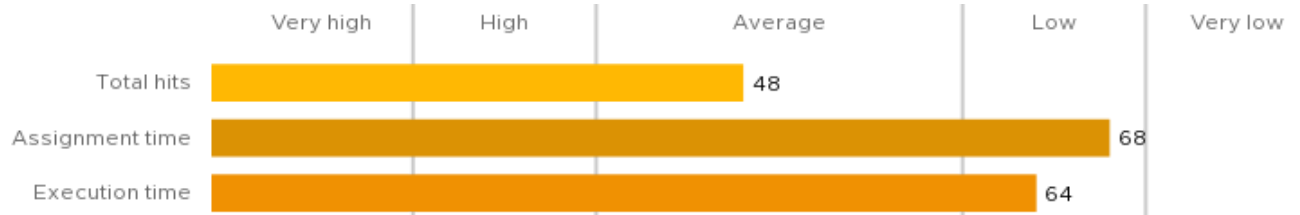
SOURCE MEMORY



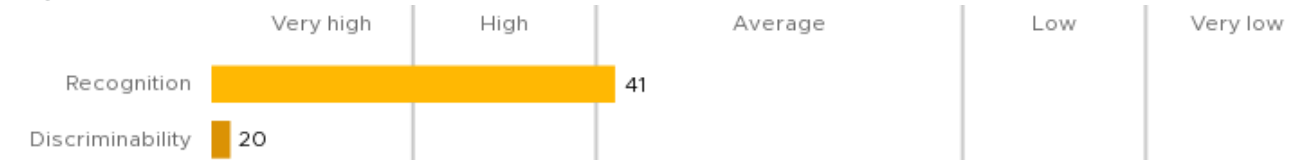
SHORT-TERM MEMORY



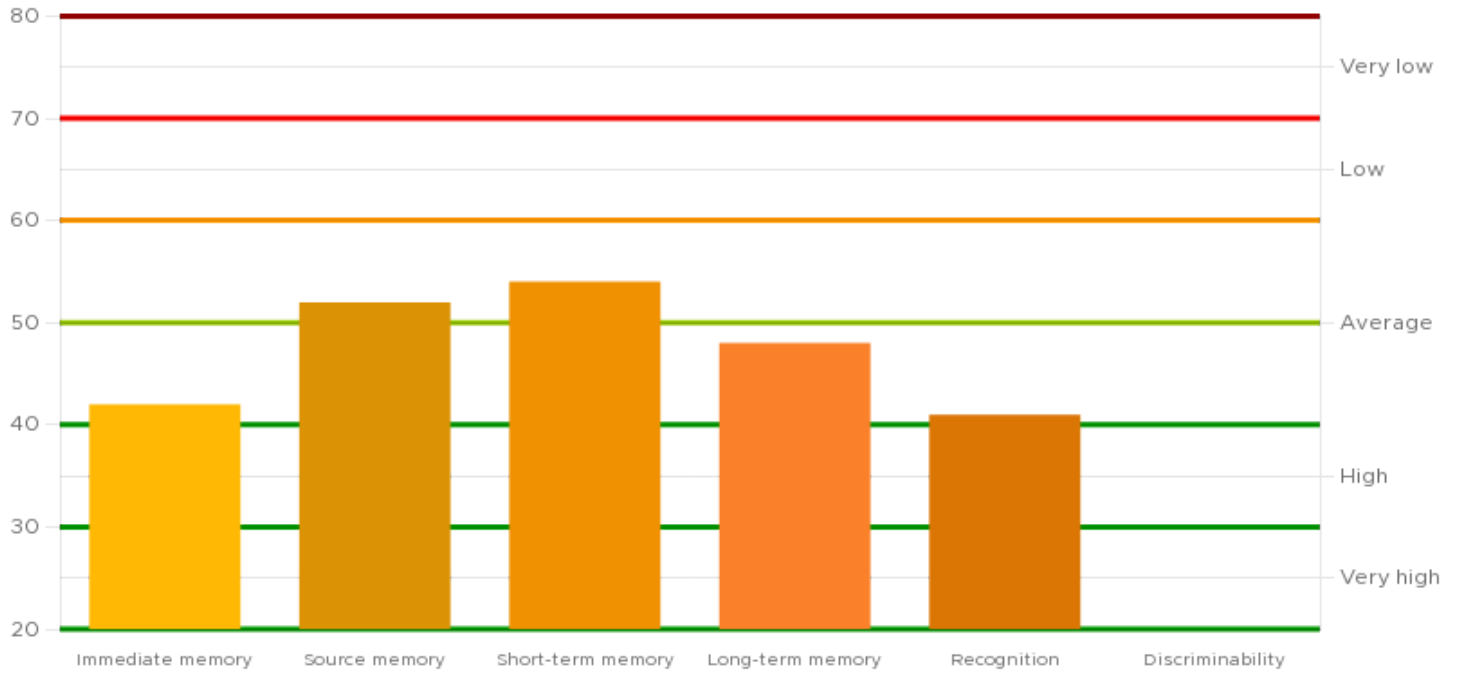
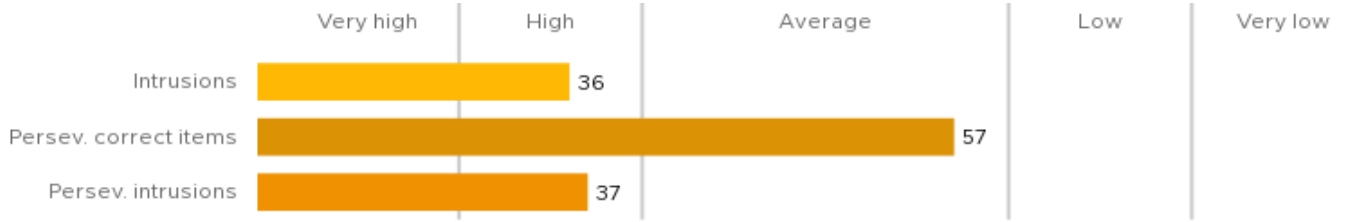
LONG-TERM MEMORY



RECOGNITION



ERRORS



1. IMMEDIATE MEMORY

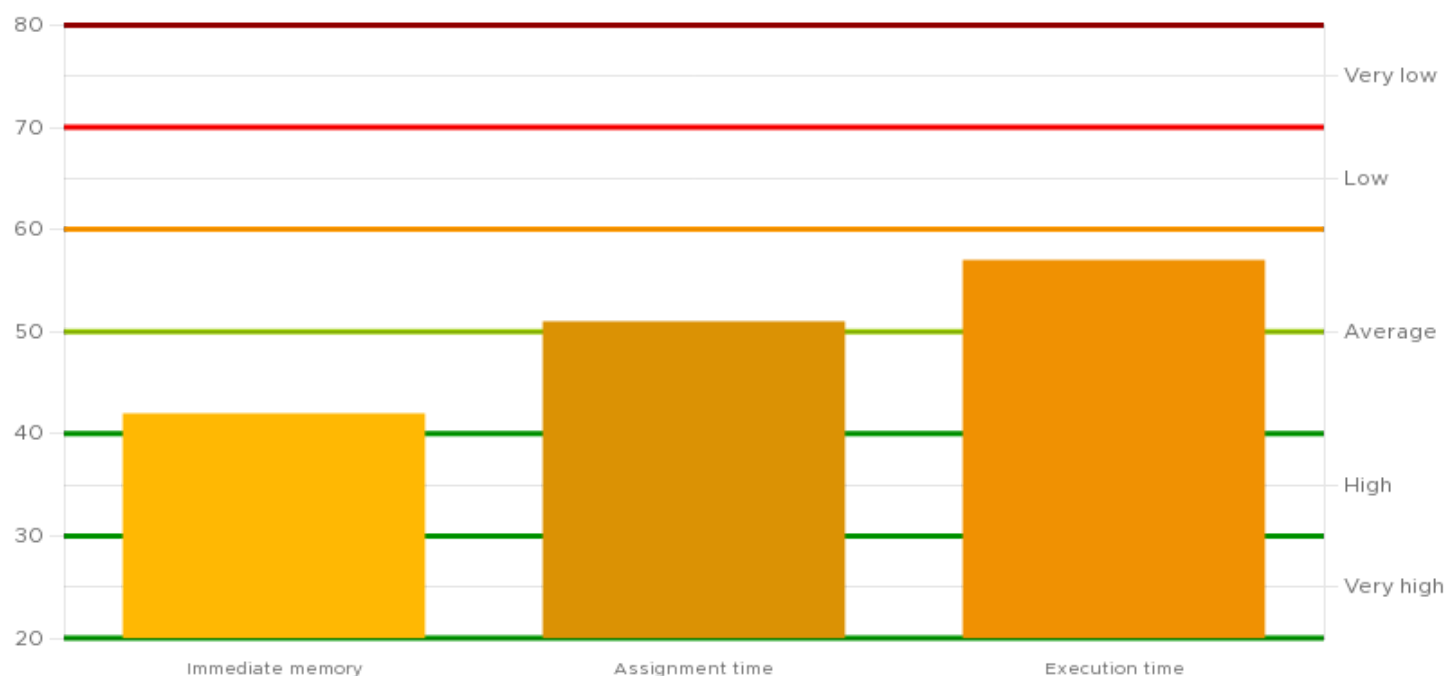
It relates to the functions of perception, attention and coding, since it is the function of repeating something that has been presented just a few seconds before. It clinically tells us if the receiving and recording function is intact. It is measured through the first task, consisting of 5 different families in 5 orders. You must attend the orders and try to remember the quantity and type of furniture, select them and finish the order. It is carried out through 3 trials, meaning that each family and their order is repeated a total of 3 times in order to measure the capacity of learning and memorization.

Immediate memory: is the success in execution, it is measured by hits. Markel has obtained a score of 42 in this variable.

Assignment time: indicates the time that it takes Markel to click on each hit in the same order, it is measured in seconds of the total hits, Markel has obtained a score of 51 in this variable.

Execution time: It is the time invested in carrying out the complete task, measured from the moment the instruction is given until the completion of the test, measured in seconds. Markel has obtained a score of 57 in this variable.

Graph in T scores of the performance in the variables indicated:



	Raw	Percentile	T score
Immediate memory	85	21	42
Assignment time	9.28 sec	54	51
Execution time	236.18 sec	75	57

Described indexes with their score in each trail:

Variable	Raw	Percentile	T score
Hits Trial 1	27	25	43
Hits Trial 2	30	7	36
Hits Trial 3	28	44	49
Assignment time Trial 1	12.39 sec	63	54
Assignment time Trial 2	16.09 sec	95	66
Assignment time Trial 3	9.28 sec	54	51
Execution time Trial 1	99.72 sec	70	55
Execution time Trial 2	79.27 sec	86	61
Execution time Trial 3	57.18 sec	70	55

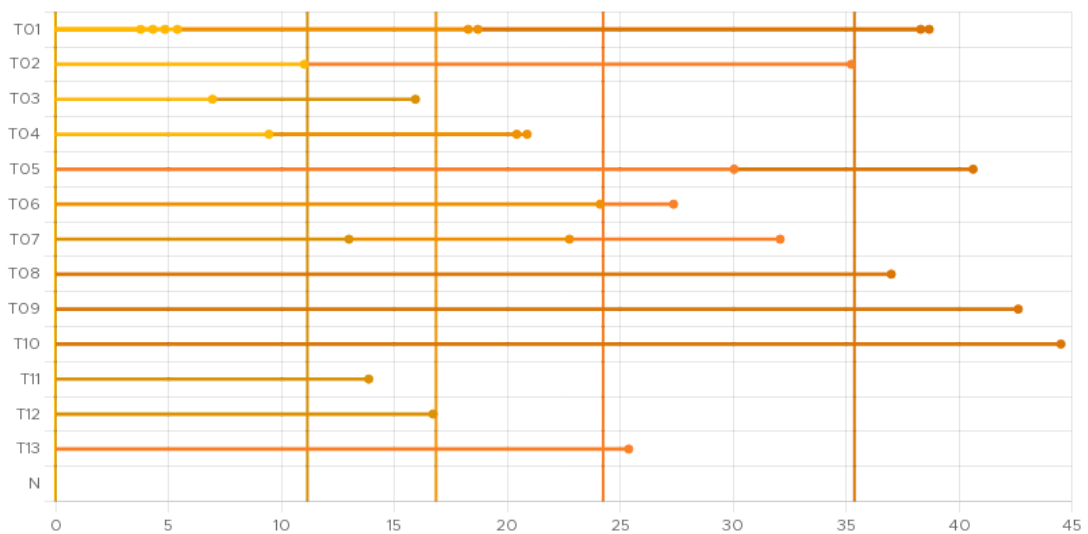
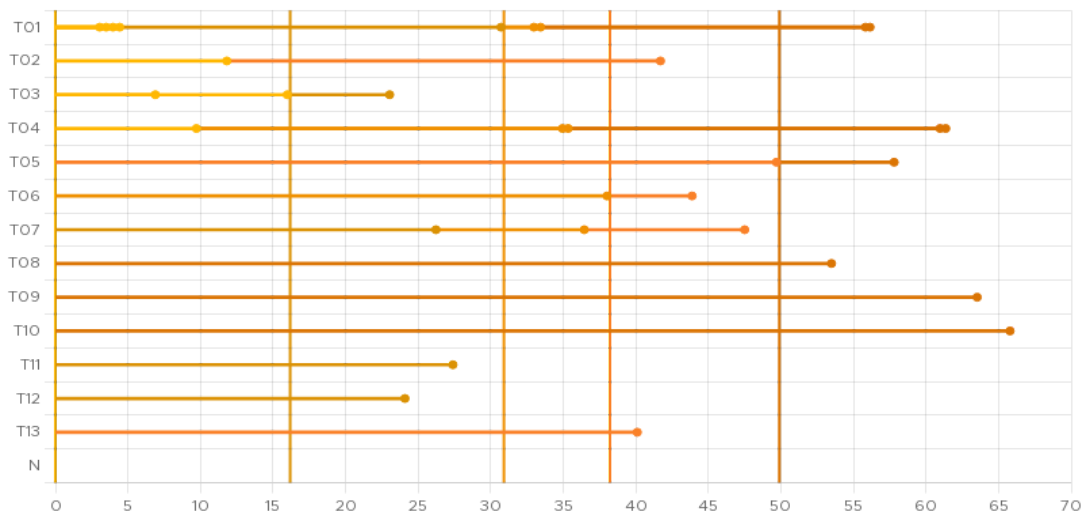
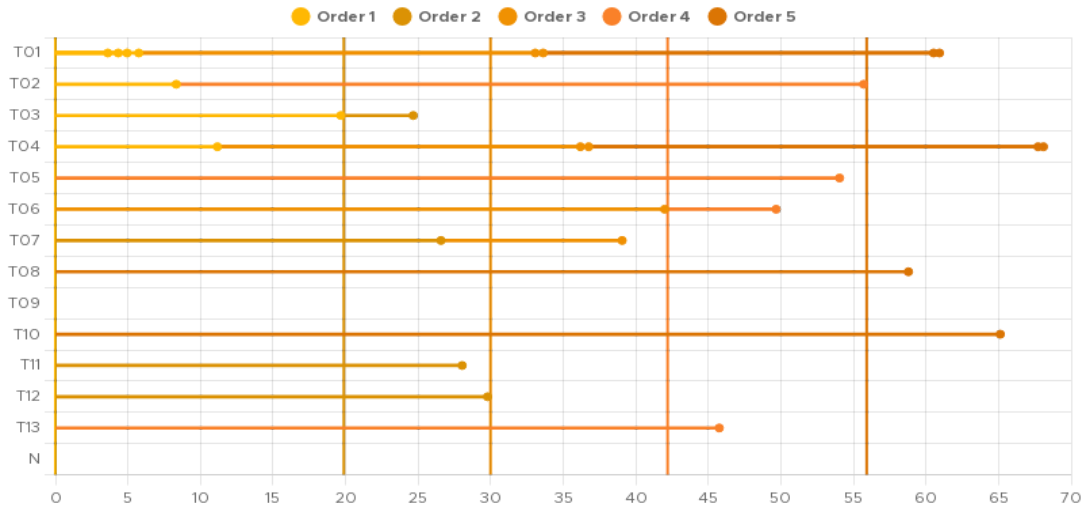
Average performance of all trials per family/order, being the score an average of all the trials performed on the orders that each of the families made, the total hits and the execution time:

Variable	Raw	Percentile	T score
Hits Order 1	21	21	42
Hits Order 2	12	28	44
Hits Order 3	18	28	44
Hits Order 4	14	30	45
Hits Order 5	20	36	47
Assignment time Order 1	11.03 sec	86	61
Assignment time Order 2	5.69 sec	73	56
Assignment time Order 3	7.4 sec	66	54
Assignment time Order 4	11.12 sec	91	64
Assignment time Order 5	9.28 sec	54	51
Execution time Order 1	56.8 sec	79	58
Execution time Order 2	37.53 sec	56	52
Execution time Order 3	34.02 sec	62	53
Execution time Order 4	53.83 sec	93	65
Execution time Order 5	53.99 sec	75	57

LEARNING CURVE

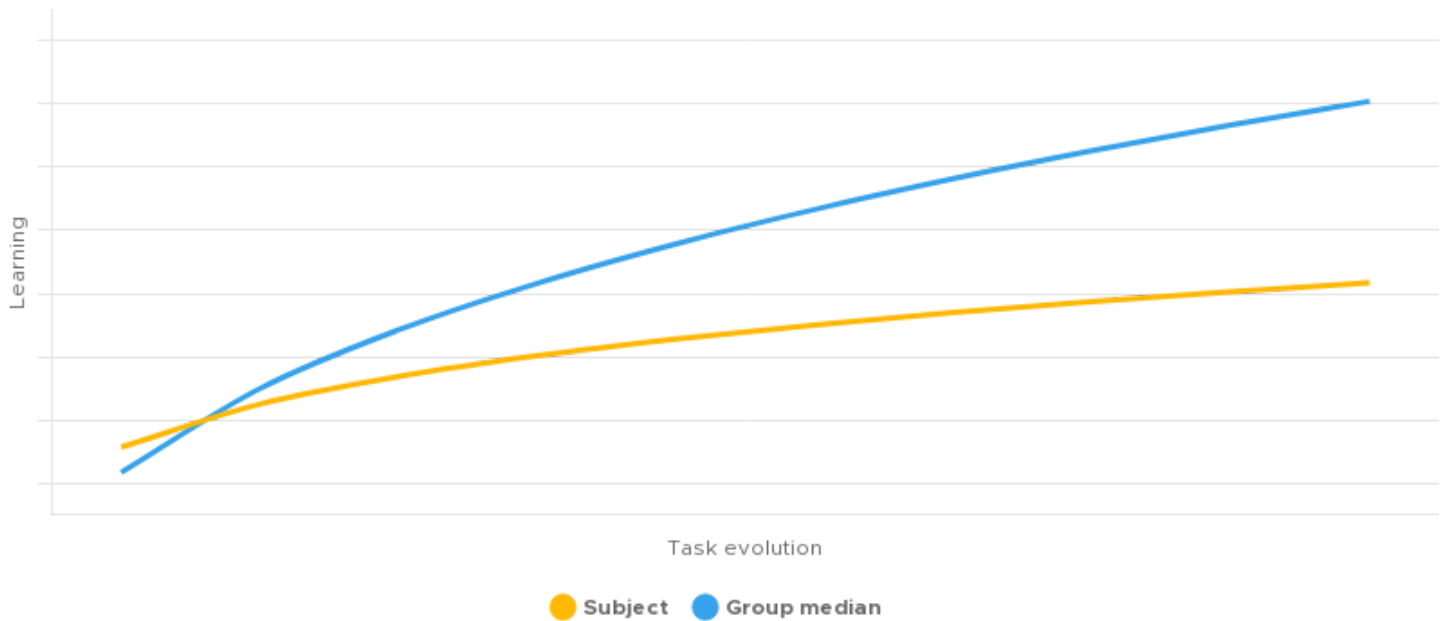
Learning consists of consolidating the information obtained and facilitating its execution throughout the trials, so that it improves the performance in hits and it takes less time to complete the task. That execution tends to be ascending over time.

Marcel's learning in Immediate Memory is shown in this graph:



The efficiency of the learning with respect to Markel's time has been of -42.54 seconds.

Evolution of the subject's learning with respect to his/her group



1.1. MEMORY STRATEGIES OF THE IMMEDIATE MEMORY TASK

PRIMACY AND RECENCY

Primacy is the memory strategy of remembering the first items, obtained by pressing first the pieces of furniture corresponding to the beginning of the list of an order. **Recency** is the memory strategy of remembering the last items, obtained by pressing first the pieces of furniture corresponding to the end of the list of an order.

Markel tends to remember the first representations of memory better than the last.

The table shows whether this effect has been achieved for each trial and family order, or if there are none (blank):

Trial	Order1	Order2	Order3	Order4	Order5
1	Primacy	Primacy	Primacy	Primacy	-
2	-	-	Primacy	-	-
3	-	-	Primacy	Primacy	-

VISUAL AND AUDITORY

These strategies refer to the greater use of visual or verbal memory to perform the task.

When the subject follows the order by doing a sweep and clicking on the pieces of furniture that he/she visually identifies from the order we say that he/she uses **visual memory**. The sweep will be classified as "right to left" or "left to right" depending on the direction he/she follows.

When the subject follows the order in which he/she has heard the order, even when there are pieces of furniture within the order that are close to each other, and reproduces the order that he/she verbally remembers, we say that he/she uses **verbal memory**.

It is compatible for both to occur since we use all our functions in order to do the task as best as possible.

	Trial 1	Trial 2	Trial 3
Order 1			
Verbal memory	Yes	No	No
Visual memory	Yes, from right to left	Yes, from right to left	Yes, from right to left
Order 2			
Verbal memory	Yes	No	No
Visual memory	No	Yes, from right to left	No
Order 3			
Verbal memory	Yes	Yes	Yes
Visual memory	Yes, from right to left	Yes, from right to left	Yes, from right to left
Order 4			
Verbal memory	No	No	No
Visual memory	No	No	No
Order 5			
Verbal memory	No	No	No
Visual memory	No	Yes, from right to left	No

Markel uses visual memory in most of the orders.

ERRORS

Markel has finished all the orders.

Markel has not clicked outside the environment.

2. SOURCE MEMORY

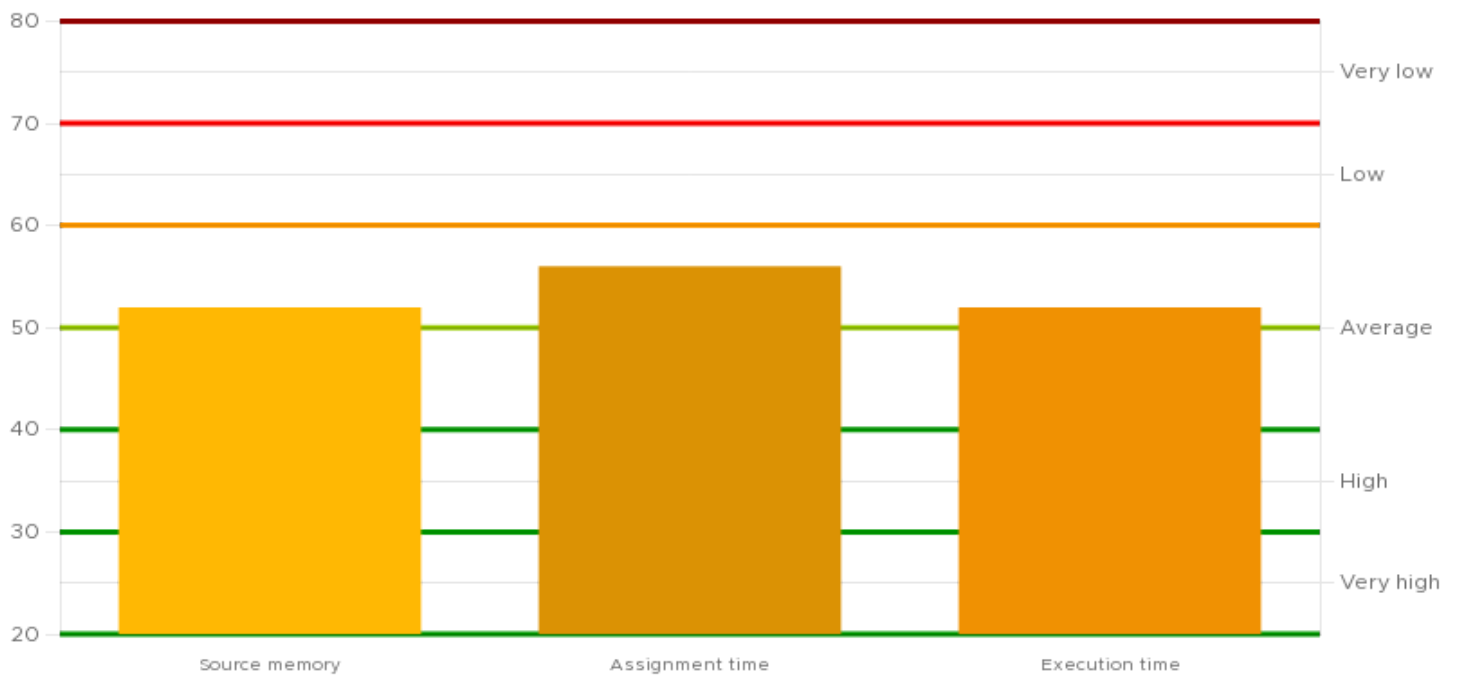
This index refers to the ability to place a memory at its corresponding origin, in its appropriate temporal and locative context. On this occasion, an order is placed and you must choose between the 5 families the one that corresponds.

Source memory: is the success in execution, measured in hits, Markel has obtained a score of 52 in this variable.

Assignment time: indicates the time it takes Markel to click on each hit in the same order, it is measured in average seconds of the total hits. Markel has obtained a score of 56 in this variable.

Execution time: It is the time invested in carrying out the complete task, measured from the moment the instruction is given until the completion of the test, measured in seconds. Markel has obtained a score of 57 in this variable.

Next, a chart of T scores of the performance in the indicated variables



	Raw	Percentile	T score
Source memory	5	56	52
Assignment time	1.94 sec	73	56
Execution time	30.57 sec	58	52

ERRORS

Markel has made the following errors in this task:

Number of incorrect assignments: 3

Number of orders assigned to an incorrect family: 0

Number of omitted assignments: 0

Number of discarded assignments: 3

Response omission: Markel in this task has clicked the button of does not know/does not answer 3 times. Of which are:

3. SHORT-TERM MEMORY

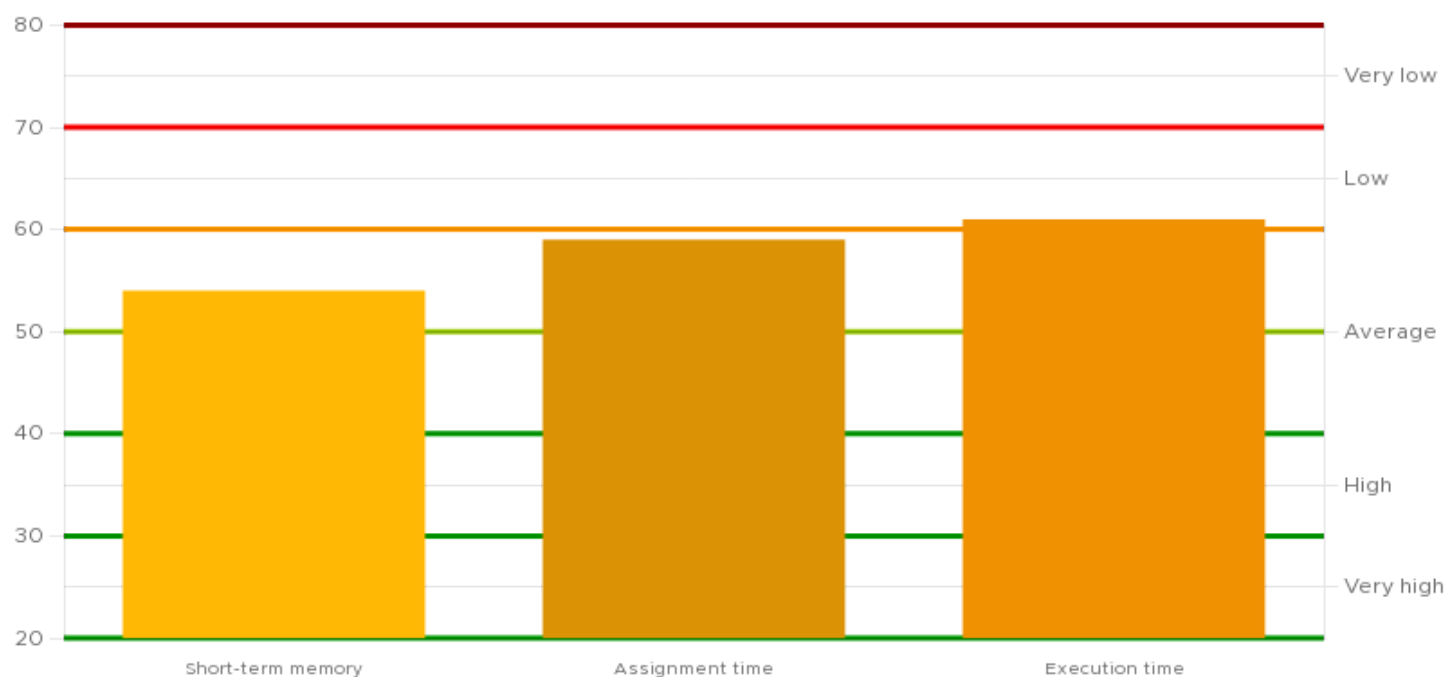
Short-term memory is a temporary storage system that allows us to retain a limited amount of information for a short period of time. In this task one has to remember the same orders that each family wanted separately in task 1.

Short-term memory: is the success in execution, it is measured by hits. Markel has obtained a score of 42 in this variable.

Assignment time: indicates the time that it takes Markel to click on each hit in the same order, it is measured in seconds of the total hits, Markel has obtained a score of 51 in this variable.

Execution time: It is the time invested in carrying out the complete task, measured from the moment the instruction is given until the completion of the test, measured in seconds. Markel has obtained a score of 57 in this variable.

Graph in T scores of the performance in the variables indicated:



	Raw	Percentile	T score
Short-term memory	20	64	54
Assignment time	13.47 sec	80	59
Execution time	101.98 sec	86	61

3.1. GAIN/LOSS

Part of the performance depends on the learning given in immediate memory (Task 1) and the consolidation and elaboration in source memory (Task 2), therefore, the decrease or increase of hits will be referred to as gain or loss.

In this case, a comparison of the total performance of hits in each order is shown in its three trials in immediate memory (task 1) and short-term memory (task 3).

Markel has obtained a gain of 8 items between immediate and short-term memory.

The performance difference is intrasubject, the variable **gain** shows the improvement or deterioration in learning with respect to the test.

Table showing the correct items and the order in which he/she makes hits and errors and performance in gain of Markel:

Order	Correct items	Hit/Error order	Gain
1	6	Hit Hit Hit Hit Hit Error Hit	46
2	1	Error Error Hit Error	32
3	3	Hit Hit Hit	39
4	3	Hit Hit Error Hit	44
5	7	Hit Hit Hit Hit Hit Hit Hit	62

3.2. MEMORY STRATEGIES IN THE SHORT-TERM TASK

PRIMACY AND RECENCY

Primacy is the memory strategy of remembering the first items, obtained by pressing first the pieces of furniture corresponding to the beginning of the list of an order. **Recency** is the memory strategy of remembering the last items, obtained by pressing first the pieces of furniture corresponding to the end of the list of an order.

Markel does not have a tendency towards Primacy or towards Recency.

The table shows whether this effect has been achieved for each trial and family order, or if there are none (blank).

Order1	Order2	Order3	Order4
-	-	-	-

VISUAL AND VERBAL

These strategies refer to the greater use of visual or verbal memory to perform the task.

When the subject follows the order by doing a sweep and clicking on the pieces of furniture that he/she visually identifies from the order we say that he/she uses **visual memory**. The sweep will be classified as "right to left" or "left to right" depending on the direction he/she follows.

When the subject follows the order in which he/she has heard the order, even when there are pieces of furniture within the order that are close to each other, and reproduces the order that he/she verbally remembers, we say that he/she uses **verbal memory**.

It is compatible for both to occur since we use all our functions in order to do the task as best as possible.

Order 1	
Verbal memory	No
Visual memory	Yes, from right to left
Order 2	
Verbal memory	No
Visual memory	No
Order 3	
Verbal memory	No
Visual memory	No
Order 4	
Verbal memory	No
Visual memory	No
Order 5	
Verbal memory	No
Visual memory	Yes, from right to left

4. LONG-TERM MEMORY

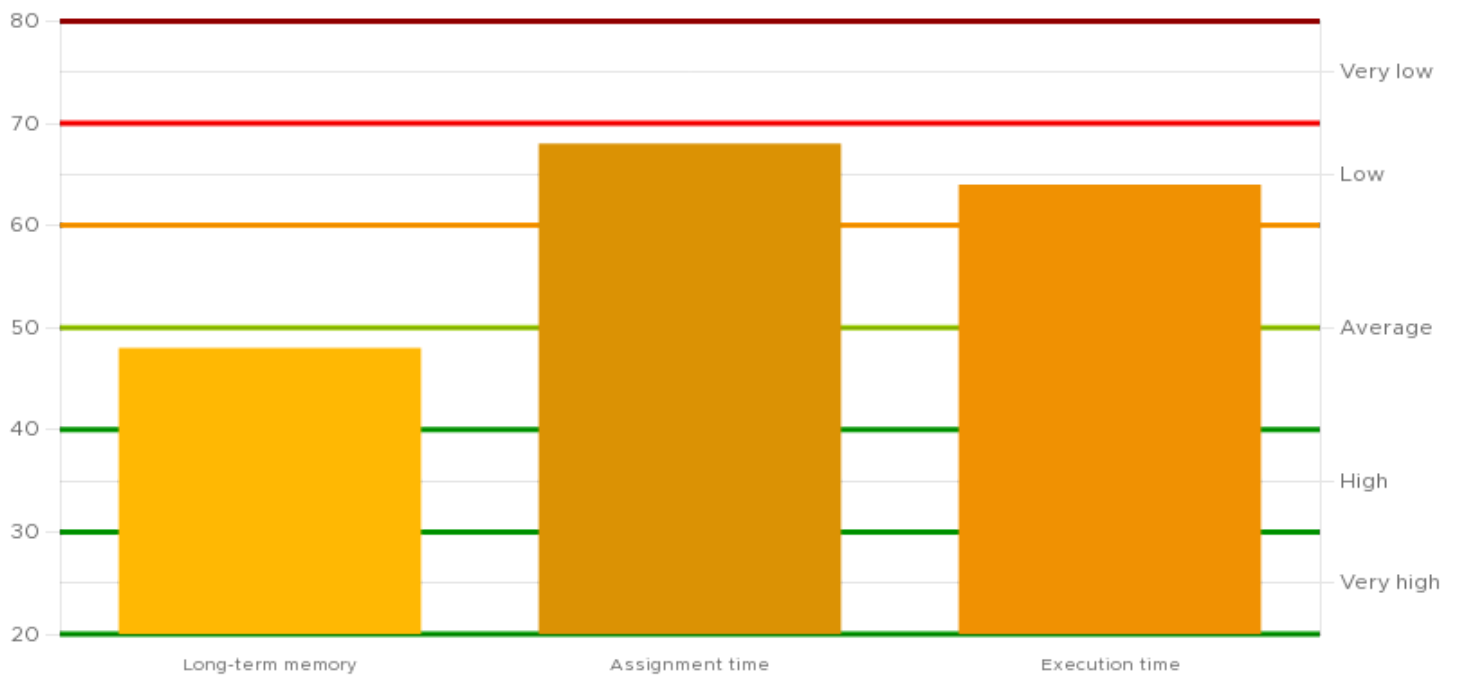
Long-term memory is the ability to consolidate and encode information so that it is stored for long periods of time. In this case, a pause is made and after that time it is required to remember the orders of each family again.

Long-term memory: is the success in execution, it is measured by hits. Markel has obtained a score of 42 in this variable.

Assignment time: indicates the time it takes Markel to click on each hit in the same order, it is measured in average seconds of the total hits. Markel has obtained a score of 56 in this variable.

Execution time: It is the time invested in carrying out the complete task, measured from the moment the instruction is given until the completion of the test, measured in seconds. Markel has obtained a score of 57 in this variable.

Graph in T scores of the performance in the variables indicated:



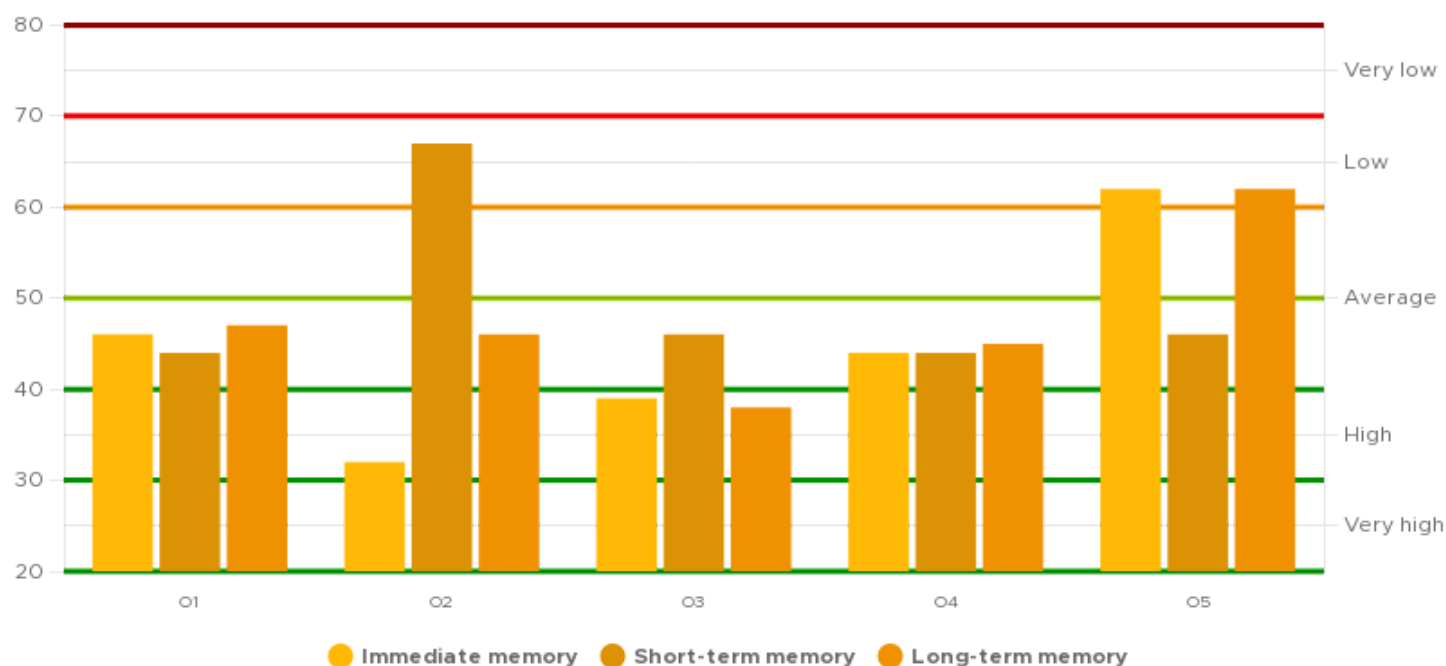
	Raw	Percentile	T score
Long-term memory	22	40	48
Assignment time	18.63 sec	96	68
Execution time	115.04 sec	91	64

GAIN/LOSS

By not repeating items, part of the performance depends on the learning given in immediate memory (Task 1) and the consolidation and elaboration in source memory (Task 2). Therefore, the decrease or increase of hits will be referred to as gain or loss.

In this case, a comparison of the total performance of hits in each order is shown in its three trials in immediate memory (task 1) and short-term memory (task 3).

Markel has obtained a gain of 8 items between immediate and short-term memory.



The performance difference is intrasubject, the variable gain shows the improvement or deterioration in learning with respect to the test.

Table of correct items and the order in which he/she makes hits and errors in the performance:

Order	Correct items	Hit/Error order	Short-term memory gain	Long-term memory gain
1	6	Hit Hit Hit Hit Hit Error Hit	44	47
2	3	Hit Hit Error Hit	67	46
3	3	Hit Hit Hit	46	38
4	3	Hit Hit Hit	44	45
5	7	Hit Hit Hit Hit Hit Hit Hit	46	62

MEMORY STRATEGIES

PRIMACY AND RECENCY

Primacy is the memory strategy of remembering the first items, obtained by pressing first the pieces of furniture corresponding to the beginning of the list of an order. **Recency** is the memory strategy of remembering the last items, obtained by pressing first the pieces of furniture corresponding to the end of the list of an order.

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MEMORY STRATEGIES

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Order 1	
Verbal memory	No
Visual memory	Yes, from right to left
Order 2	
Verbal memory	No
Visual memory	No
Order 3	
Verbal memory	No
Visual memory	No
Order 4	
Verbal memory	No
Visual memory	No
Order 5	
Verbal memory	No
Visual memory	No

5. RECOGNITION

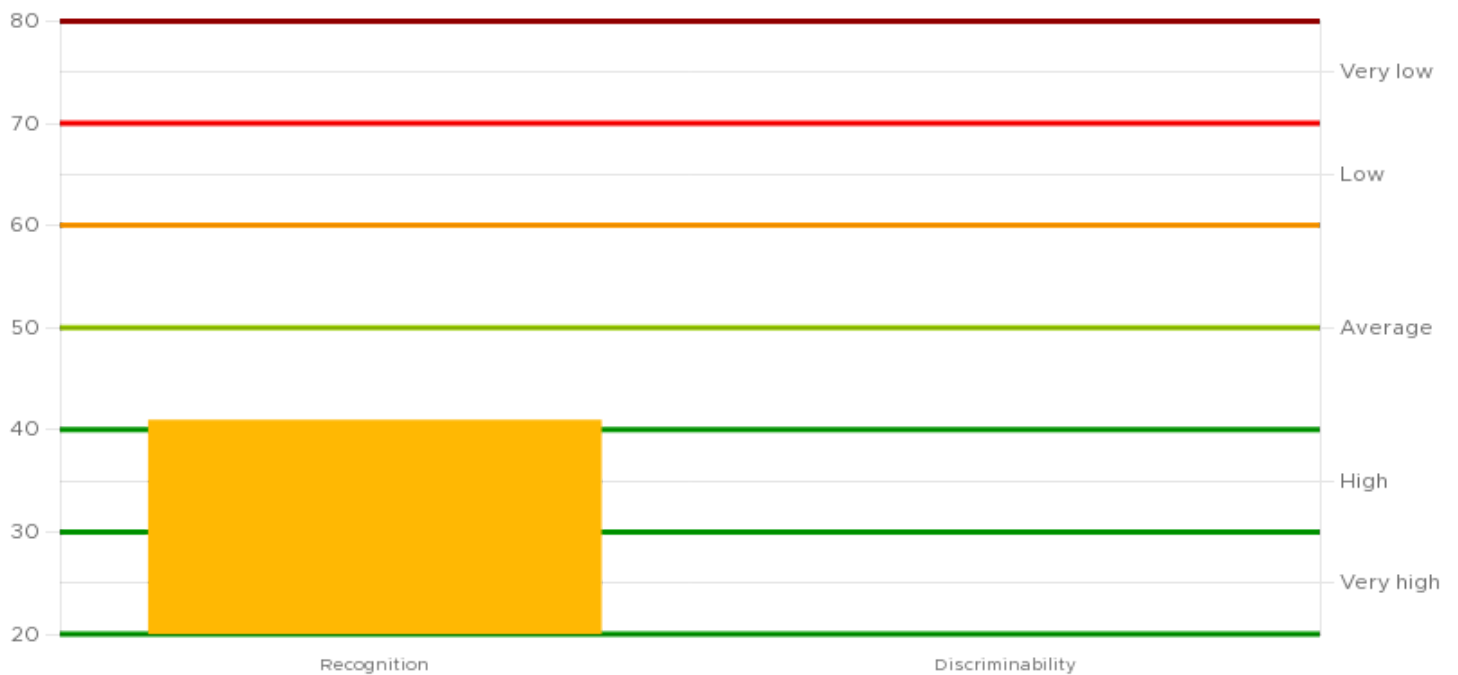
While memory is an exercise in bringing back information previously presented, recognition presents the information and one must discern whether the items have been processed previously or not.

Recognition: Measured in total hits, Markel has a performance of 41 in this variable.

False positives: It is measured by errors by clicking. Markel has a performance of 61 in this variable.

Discriminability: Obtained from the formula d' prime explained in the manual. Markel has a performance of 20 in this variable.

Graph in T scores of the recognition variables



	Raw	Percentile	T score
Long-term memory	18	19	41
Discriminability	1.66	0	20

The execution of Markel in this task is shown in the following table:

Item	Correct	Response time
1	Yes	8.96 sec
2	Yes	1.51 sec
3	Yes	1.29 sec
4	Yes	2.14 sec
5	Yes	1.32 sec
6	Yes	1 sec
7	Yes	0.76 sec
8	Yes	1.22 sec
9	Yes	1.26 sec
10	Yes	1.19 sec
11	Yes	1.65 sec
12	Yes	1.47 sec
13	Yes	0.83 sec
14	Yes	0.83 sec
15	Yes	0.96 sec
16	Yes	1.28 sec
17	Yes	2.73 sec
18	Yes	2.11 sec

The analysis of the following variables is shown below:

Number of items correctly identified as part of the orders (true positives)	6	17.42 sec
Number of items correctly discarded as not ordered (true negatives)	12	15.12 sec
Number of items incorrectly identified as part of the orders when they were not (false positives)	0	0 sec
Number of items incorrectly discarded when they were part of the order (false negative)	0	0 sec
Total number of items correctly classified.	18	32.54 sec

Markel presents a time standard deviation on the hits of 57 and a time standard deviation on the errors of 77.

ERRORS IN THE RECOGNITION TASK

Markel has not made intrusion errors in the recognition task.

6. OTHER INDICATORS

6.1. PROSPECTIVE MEMORY

It is the memory that allows you to plan and remember tasks to be done in the future. In this case, at the beginning of the test, next to the instructions, the subject is asked to turn off the light when finished.

Markel has turned off the light, this data has no statistical significance in the current normative, so it only serves as qualitative data 1. With a latency of 8704.

6.2. FORCED CHOICE

This task is not part of the memory test.

In this task Markel gives a result of 1.

The execution of Markel in this task is shown in the following table:

Item	Speed
T11	2.64 sec
T08	1.7 sec
T02	1.96 sec
T06	1.63 sec
T09	1.49 sec
T13	1.4 sec

6.3. INTRUSIONS AND PERSEVERATIONS

Perseverations: They are memory insistences on the same item. They are obtained when one clicks on an item more times than asked. Markel has a performance of 36 in this variable.

Intrusions: These are items that are recognized as correct but are not. Markel has a performance of 57 in this variable.

Perseverations on intrusions: Memory insistences on an intrusion. Markel has a performance of 57 in this variable.

	E 1-3	STFR	DFR	Raw	Percentile	T score
Persev. correct items	1	1	1	3	76	57
Intrusions	1	4	1	6	8	36
Persev. intrusions	0	0	0	0	9	37

EXECUTION TABLE FOR TRIALS

DIRECT - IMMEDIATE MEMORY

Trial 1	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13
Order 1	4(1)	1(2)	1(4)	1(3)									
Order 2			1(1)				1(2)				1(3)	1(4)	
Order 3	2(1)			2(2)		1(4)	1(3)						
Order 4		1(4)			1(3)	1(2)							1(1)
Order 5	2(2)			2(4)				1(1)		1(3)			

Trial 2	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13
Order 1	4(1)	1(4)	1(2) 1(5)	1(3)									
Order 2	1(5)		1(1)				1(3)				1(4)	1(2)	
Order 3	2(1)			2(2)		1(4)	1(3)						
Order 4		1(2)			1(5)	1(3)	1(4)						1(1)
Order 5	2(2)			2(4)	1(3)			1(1)	1(5)	1(6)			

Trial 3	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13
Order 1	4(1)	1(4)	1(2)	1(3)									
Order 2			1(3)				1(1)				1(2)	1(4)	
Order 3	2(1)			2(2)		1(4)	1(3)						
Order 4		1(5)			1(3)	1(2)	1(4)						1(1)
Order 5	2(2)				1(3)			1(1)	1(4)	1(5)			

DIRECT, FREE RECALL - SHORT-TERM MEMORY

	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13
Order 1	4(1)		1(3)	2(2)									
Order 2	1(1)	1(2)		1(4)			1(3)						
Order 3	2(2)						1(1)						
Order 4		1(4)	1(3)		1(2)								1(1)
Order 5	2(2)			2(3)				1(1)	1(4)	1(5)			

DIRECT, FREE RECALL - LONG-TERM MEMORY

	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	T13
Order 1	4(1)		1(3)	2(2)									
Order 2	1(3)						1(2)				1(1)	1(4)	
Order 3	2(1)						1(2)						
Order 4		1(3)			1(2)								1(1)
Order 5	2(2)			2(5)				1(1)	1(3)	1(4)			