

## ASSESSMENT REPORT OF THE MEMORY PROFILE

Full name: EXAMPLE EXAMPLE

Gender: Male

**Age:** 22

**Execution of the test:** 25/02/2022 17:02

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





Full name: EXAMPLE EXAMPLE

Gender: Male

Date of birth: 09/07/1999

Age: 22 years

**Execution of the test:** 25/02/2022 17:02

**Duration of the test** 

Suite 1: 13m 20s

Suite 2: 3m 17s

Time between parts: 11m 27s

Scale used: 13-26 Male

**Previous notes:** 

No previous comments

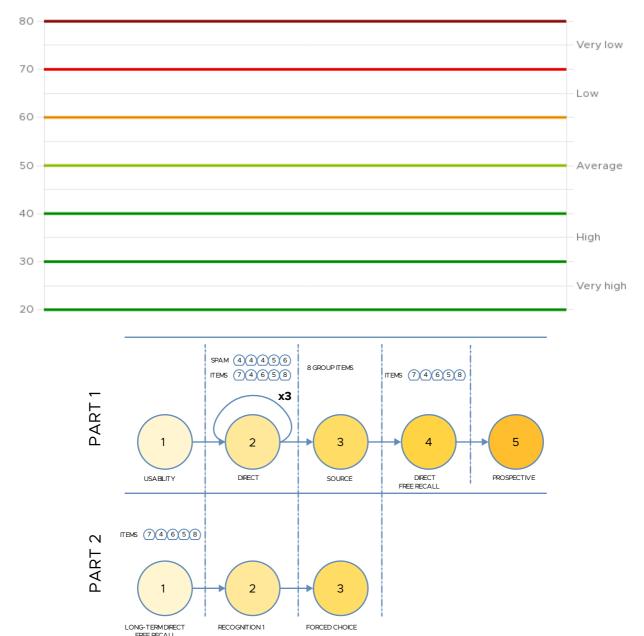
Subsequent notes:

No comments following the test

#### **NESPLORA SUITE ASSESMENT REPORT**

Nesplora Suite is a memory test that takes place in the virtual environment of a furnitore shop 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 shop. 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.

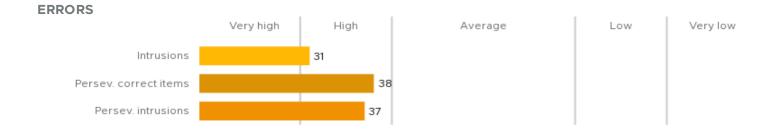
The different scores obtained in the execution are presented both in time and in hits/errors. These scores are presented in Raw scores, Percentiles, T scores and qualitative scores (Performance: very low, low, normal, high and very high), with the graphs showing T scores (Average=50 Standard deviation=10).

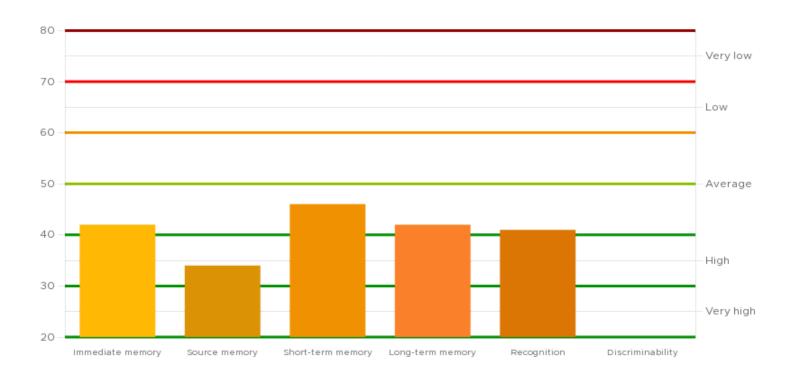


For a better interpretation of the report, it is recommended to consult the Nesplora Suite manual.

## **SUMMARY TABLE**







#### 1. IMMEDIATE MEMORY

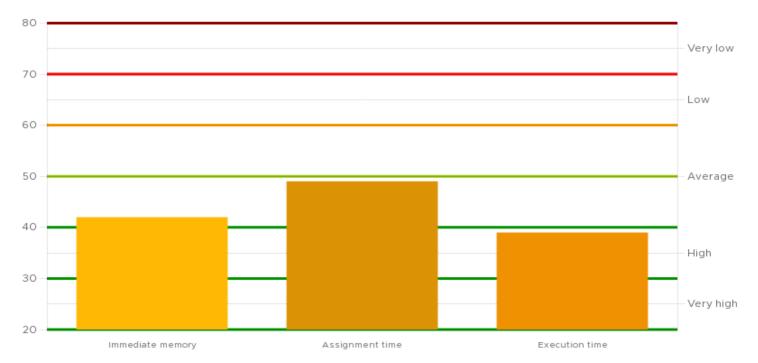
It relates to the functions of perception, attention and coding, since it is the function of repeating something that has been presented just a few seconds before. It clinically tells us if the receiving and recording function is intact. It is measured through the first task, consisting of 5 different 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. EXAMPLE has obtained a score of 42 in this variable.

**Assignment time:** indicates the time that it takes EXAMPLE to click on each hit in the same order, it is measured in seconds of the total hits, EXAMPLE has obtained a score of 49 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. EXAMPLE has obtained a score of 39 in this variable.

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



	Raw	Percentile Percentile	T score
Immediate memory	85	21	42
Assignment time	8.2 sec	44	49
Execution time	150.39 sec	13	39

Described indeces with their score in each trail:

Variable	Raw	Percentile	T score
Hits Trial 1	28	16	40
Hits Trial 2	30	7	36
Hits Trial 3	27	60	53
Assignment time Trial 1	7.66 sec	15	40
Assignment time Trial 2	15.07 sec	94	66
Assignment time Trial 3	8.2 sec	44	49
Execution time Trial 1	62.53 sec	18	41
Execution time Trial 2	48.25 sec	31	45
Execution time Trial 3	39.6 sec	16	40

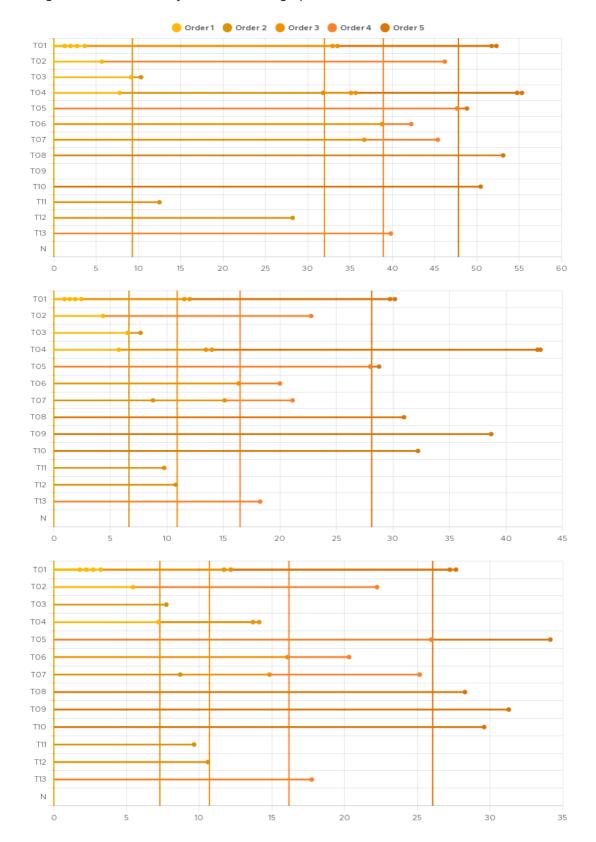
Average performance of all trials per family/order, being the score an average of all the trials performed on the orders that each of the families made, the total hits and the execution time:

Variable	Raw	Percentile Percentile	T score
Hits Order 1	20	43	48
Hits Order 2	11	57	52
Hits Order 3	18	28	44
Hits Order 4	15	15	40
Hits Order 5	21	21	42
Assignment time Order 1	7.19 sec	41	48
Assignment time Order 2	3.41 sec	20	42
Assignment time Order 3	5.47 sec	26	44
Assignment time Order 4	9.89 sec	87	62
Assignment time Order 5	8.2 sec	44	49
Execution time Order 1	26.86 sec	6	35
Execution time Order 2	34.09 sec	45	49
Execution time Order 3	22.09 sec	6	35
Execution time Order 4	32.78 sec	57	52
Execution time Order 5	34.57 sec	15	40

### **LEARNING CURVE**

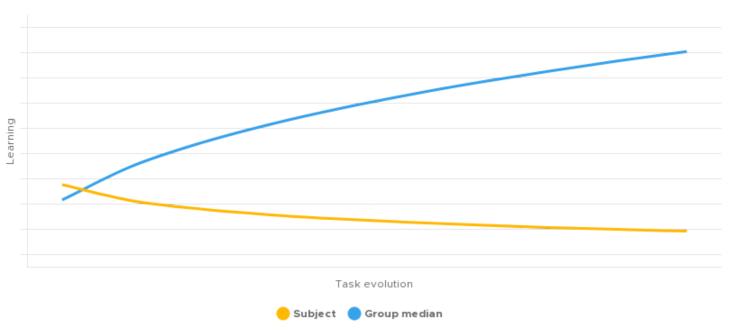
Learning consists of consolidating the information obtained and facilitating its execution throughout the trials, so that it improves the performance in hits and it takes less time to complete the task. That execution tends to be ascending over time.

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



The efficiency of the learning with respect to EXAMPLE's time has been of -22.93 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.

EXAMPLE 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	Orde r1	Orde r2	Order3	Orde r4	Orde r5
1	Prim acy	-	Primacy	Prim acy Prim acy	Recency
2	Prim acy	Primacy	Prim acy	Prim acy	-
3	Prim acv	Primacy	Prim acv	Prim acv	-

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### **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 Visual memory	Yes Yes, from right to left	Yes Yes, from right to left	Yes No
Order 2 Verbal memory Visual memory	No Yes, from left to right	Yes No	Ye s No
Order 3 Verbal memory Visual memory	Yes Yes, from right to left	Yes Yes, from right to left	Yes Yes, from right to left
Order 4 Verbal memory Visual memory	No No	No No	Ye s No
Order 5 Verbal memory Visual memory	No No	No No	No No

EXAMPLE uses verbal memory in most of the orders.

## **ERRORS**

EXAMPLE has finished all the orders.

EXAMPLE has not clicked outside the environment.

#### 2. SOURCE MEMORY

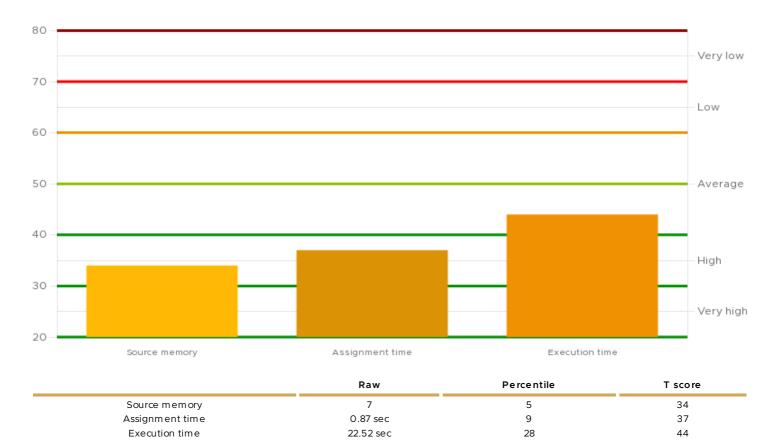
This index refers to the ability to place a memory at its corresponding origin, in its appropriate temporal and locative context. On this occasion, an order is placed and you must choose between the 5 families the one that corresponds.

Source memory: is the success in execution, measured in hits, EXAMPLE has obtained a score of 34 in this variable.

**Assignment time:** indicates the time it takes EXAMPLE to click on each hit in the same order, it is measured in average seconds of the total hits. EXAMPLE has obtained a score of 37 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. EXAMPLE has obtained a score of 39 in this variable.

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



#### **ERRORS**

EXAMPLE has made the following errors in this task:

Number of incorrect assignments: 1

Number of orders assigned to an incorrect family: 1

Number of omitted assignments:  $\ensuremath{\text{0}}$ 

Number of discarded assignments: 0

#### 3. SHORT-TERM MEMORY

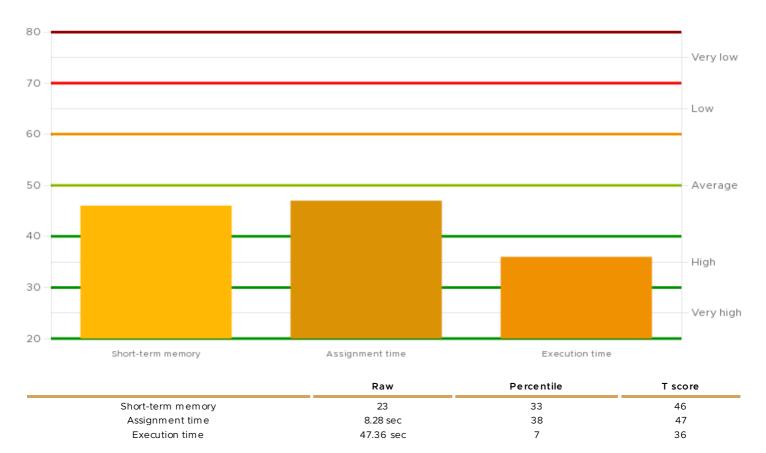
Short-term memory is a temporary storage system that allows us to retain a limited amount of information for a short period of time. In this task one has to remember the same orders that each family wanted separately in task 1.

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

**Assignment time:** indicates the time that it takes EXAMPLE to click on each hit in the same order, it is measured in seconds of the total hits, EXAMPLE has obtained a score of 49 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. EXAMPLE has obtained a score of 39 in this variable.

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



## 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).

EXAMPLE has obtained a gain of 4 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.

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

 )rde r	Correct items	Hit/Error order	Gain
1	5	Hit   Hit   Hit   Hit	46
2	4	Hit   Hit   Hit   Hit	52
3	5	Hit   Hit   Hit   Hit   Error	49
4	4	Hit   Hit   Hit   Hit	52
5	5	Hit   Hit   Hit   Hit	44

#### 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.

EXAMPLE 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).

Orde r1	Orde r2	Orde r3	Orde r4
Prim acy	Prim acy	Prim acy	-

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

### **CLICKS OUTSIDE ITEMS**

EXAMPLE has clicked 1 times outside the items in the environment. Specifically in the orders

PE3

### 4. LONG-TERM MEMORY

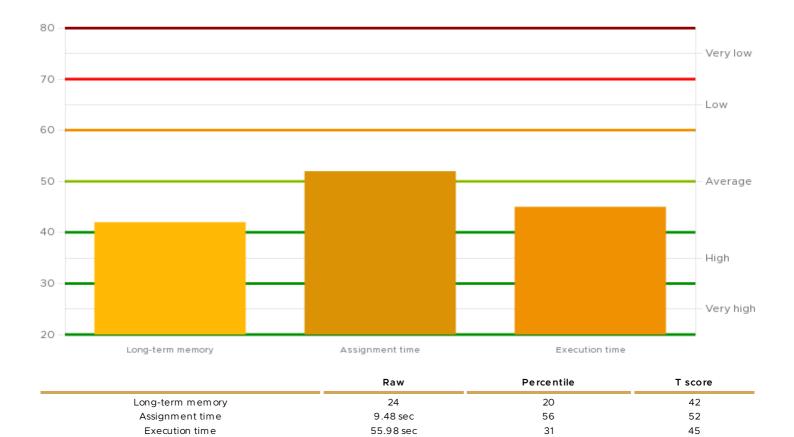
Long-term memory is the ability to consolidate and encode information so that it is stored for long periods of time. In this case, a pause is made and after that time it is required to remember the orders of each family again.

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

**Assignment time:** indicates the time it takes EXAMPLE to click on each hit in the same order, it is measured in average seconds of the total hits. EXAMPLE has obtained a score of 37 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. EXAMPLE has obtained a score of 39 in this variable.

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



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### **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).

EXAMPLE has obtained a gain of 4 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:

Orde r	Correct items	Hit/Error order	Short-term memory gain	Long-term memory gain
1	6	Hit   Hit   Hit   Hit   Hit   Error	57	57
2	4	Hit   Hit   Hit   Hit	42	52
3	5	Hit   Hit   Hit   Hit   Hit   Error	46	48
4	4	Hit   Hit   Hit   Hit	44	52
5	5	Hit   Hit   Hit   Hit   Hit	46	45

#### **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.

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

Orde r1	Orde r2	Orde r3	Order4
Prim acv	Primacy	Prim acv	-

<sup>\*</sup> EXAMPLE tends to remember the first representations of memory better than the last.

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#### **MEMORY STRATEGIES**

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

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

### 5. RECOGNITION

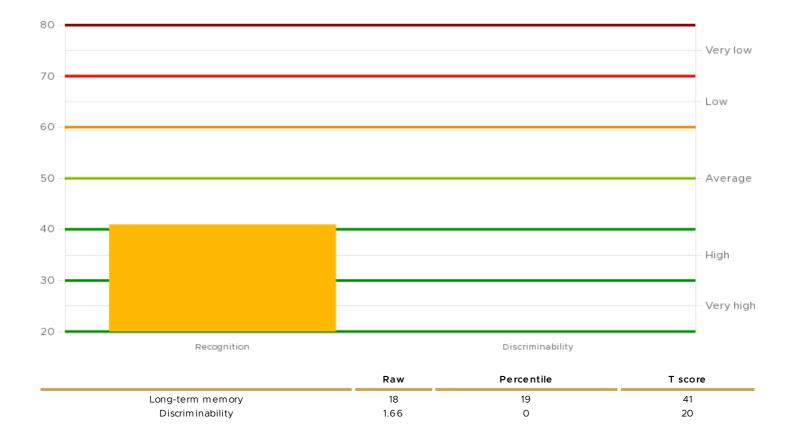
While memory is an exercise in bringing back information previously presented, recognition presents the information and one must discern whether the items have been processed previously or not.

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

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

**Discrimina bility:**Obtained from the formula d' prime explained in the manual. EXAMPLE has a performance of 20 in this variable.

Graph in T scores of the recognition variables



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

lt e m	Corre ct	Response time
1	Yes	2.47 sec
2	Yes	1.41 sec
3	Yes	1.16 sec
4	Yes	1.48 sec
5	Yes	1.2 sec
6	Yes	1.22 sec
7	Yes	1.08 sec
8	Yes	1.52 sec
9	Yes	1.22 sec
10	Yes	1.05 sec
11	Yes	1.3 sec
12	Yes	1.12 sec
13	Yes	1.14 sec
14	Yes	1.3 sec
15	Yes	1.31 sec
16	Yes	1.13 sec
17	Yes	1.25 sec
18	Yes	1.08 sec

The analysis of the following variables is shown below:

Number of items correctly identified as part of the orders (true positives)	6	8.68 sec
Number of items correctly discarded as not ordered (true negatives)	12	14.75 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	23.42 sec

EXAMPLE presents a time standard deviation on the hits of 42 and a time standard deviation on the errors of 77.

## **ERRORS IN THE RECOGNITION TASK**

EXAMPLE 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.

EXAMPLE 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 4320.

## 6.2. FORCED CHOICE

This task is not part of the memory test.

In this task EXAMPLE gives a result of 1.

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

Ite m	Spe e d
T11	1.56 sec
T08	1.38 sec
T02	1.41 sec
Т06	1.35 sec
Т09	1.26 sec
T13	2.13 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. EXAMPLE has a performance of 31 in this variable.

**Intrusions:** These are items that are recognized as correct but are not. EXAMPLE has a performance of 38 in this variable.

Perseverations on intrusions: Memory insistences on an intrusion. EXAMPLE has a performance of 38 in this variable.

	E 1-3	STFR	DFR	Raw	Percentile	T score
Persev. correct items	0	0	0	0	11	38
Intrusions	1	1	2	4	3	31
Persev. intrusions	0	0	0	0	9	37

## **EXECUTION TABLE FOR TRIALS**

DIDE			ATE	$\mathbf{n}$
DIRE	C   -		AIL	URI

Trial 1	T01	T02	Т03	Т04	Т05	Т06	Т07	Т08	Т09	T 10	T 11	T12	T13
Order 1	4(1)	1(2)	1(4)	1(3)									
Order 2			1(1)	1(4)							1(2)	1(3)	
Order 3	2(1)			2(2)		1(4)	1(3)						
Order 4		1(4)			1(5)	1(2)	1(3)						1(1)
Order 5	2(3)			2(5)	1(1)			1(4)		1(2)			
Trial 2	T01	T02	Т03	Т04	Т05	Т06	Т07	Т08	Т09	T10	T 11	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(5)	1(2)	1(3)						1(1)
Order 5	2(2)			2(6)	1(1)			1(3)	1(5)	1(4)			
Trial 3	T01	Т02	Т03	T04	Т05	Т06	Т07	Т08	Т09	T10	T 11	T 12	T13
Order 1	4(1)	1(2)		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(3)			1(5)	1(2)	1(4)						1(1)
Order 5	2(1)				1(5)			1(2)	1(4)	1(3)			

## **DIRECT, FREE RECALL - SHORT-TERM MEMORY**

	T01	T02	Т03	T04	T05	Т06	Т07	T08	Т09	T10	T 11	T12	T 13
Order 1	4(1)	1(2)											
Order 2			1(1)				1(2)				1(3)	1(4)	
Order 3	2(1)		1(4)	2(2)		1(3)							
Order 4					1(4)	1(2)	1(3)						1(1)
Order 5	2(1)				1(4)			1(2)		1(3)			

## **DIRECT, FREE RECALL - LONG-TERM MEMORY**

	T01	T02	Т03	T04	Т05	Т06	Т07	Т08	Т09	T10	T 11	T12	T 13
Order 1	4(1)	1(3)		1(2)			1(4)						
Order 2			1(1)				1(2)				1(3)	1(4)	
Order 3	2(1)		1(4)	2(2)		1(3)							
Order 4		1(3)			1(4)	1(2)							1(1)
Order 5	2(1)							1(2)	1(4)	1(3)			