



# Interpretative report

## Assessment report of the attention profile



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

This report should not be used as the sole basis for clinical diagnosis or intervention.

FULL NAME	MARKEL ANÓNIMO
GENDER	MALE
DATE OF BIRTH	13/11/2020 11:17
AGE	7
EXECUTION OF THE TEST	13/11/2020 11:17
DURATION OF THE TEST	0:16:40
SCALE USED	7 MALE
PREVIOUS NOTES	
SUBSEQUENT NOTES	

# 1. Nesplora Aula School orientation report

## 1.1 Justification

All people have their own characteristics, such as their own way of learning. Teaching methodology encompasses numerous processes and contextual factors that have an impact on student learning. These include the importance of attentional processes in learning. Consequently, some strategies are not better than others in absolute terms, but some strategies may be more appropriate than others due to the profile of the student.

From our experience using the Nesplora Aula tool (in a clinical and research environment), it has been proven the value of the tool beyond just helping to facilitate a clinical diagnosis. A report has been developed that allows the results of Nesplora Aula to be oriented to the educational environment, using objective information to create an attentional profile and psycho-pedagogical guidance according to this profile, which will ultimately facilitate student learning and a greater integration of cognitive diversity in the classroom.

This report includes the attentional assessment of the student, carried out with the aim of providing a neuropsychological profile that provides data for their school orientation. The assessment has been carried out with the help of an instrument of proven efficacy and validity which guarantees maximum quality and reliability of the data obtained. In order to facilitate the understanding of the data, please note that the results of the assessment may be affected by circumstantial factors, such as the motivation of the student, their health on the date of the test, their attention to the instructions given, etc. For this reason, the interpretation of the results must be carried out by a professional qualified to do so, with referral to the professional being necessary in the event of significant results appearing (\*\*).

## 1.2 Objectives

The objective of this report is to find out the student's attentional profile, their **strengths and weaknesses** and offer strategies to aid their learning.

It also aims to provide an **early detection** of any attention problems, thus enabling early intervention that can be adapted to the needs of the student.

# 1. Nesplora Aula School orientation report

## 1.3 Description of the test

Nesplora Aula School is a test carried out in a virtual environment, using a special headset that is equipped with motion sensors and headphones. It is designed to evaluate attentional processes in students between 6 and 16 years old.

The virtual setting is similar to a school classroom and it places the student at one of the desks, giving the sensation that they are actually in the classroom.

On the virtual blackboard and using the headphones, a series of stimuli (visual and auditory) are presented. The student should then respond to these, following the instructions throughout two tasks.

**Inhibition task:** The student must press the button for all the stimuli they see or hear except for the target stimulus (specific stimulus mentioned in the instructions).

**Vigilance task:** The student must press the button only when they see or hear the target stimulus, refraining from pressing with the rest.

In addition, a variety of distractors will occur throughout the test, so we can analyse comparative performance across task types, sensory channels (auditory or visual) and how distractors affect performance.

The graphs and tables in the report present the scores obtained in the test (described below). These scores will describe the child's performance and are expressed in T scores. They range from the lowest score of 20 to the highest score of 80.

T SCORE RANGE	PERFORMANCE
20-40	LOW
43-60	AVERAGE
61-80	HIGH

Despite the fact that all scores could be improved, those with the greatest range of improvement are considered 'improvable'. Additionally, at the end of the report, there is a series of psycho-pedagogical guidelines associated with the child's attention profile. This report shows **Markel's** performance in these tasks when subjected to the following circumstances: visual and auditory stimuli, with and without distractors, when carrying out one stimulating, one monotonous and one general task.

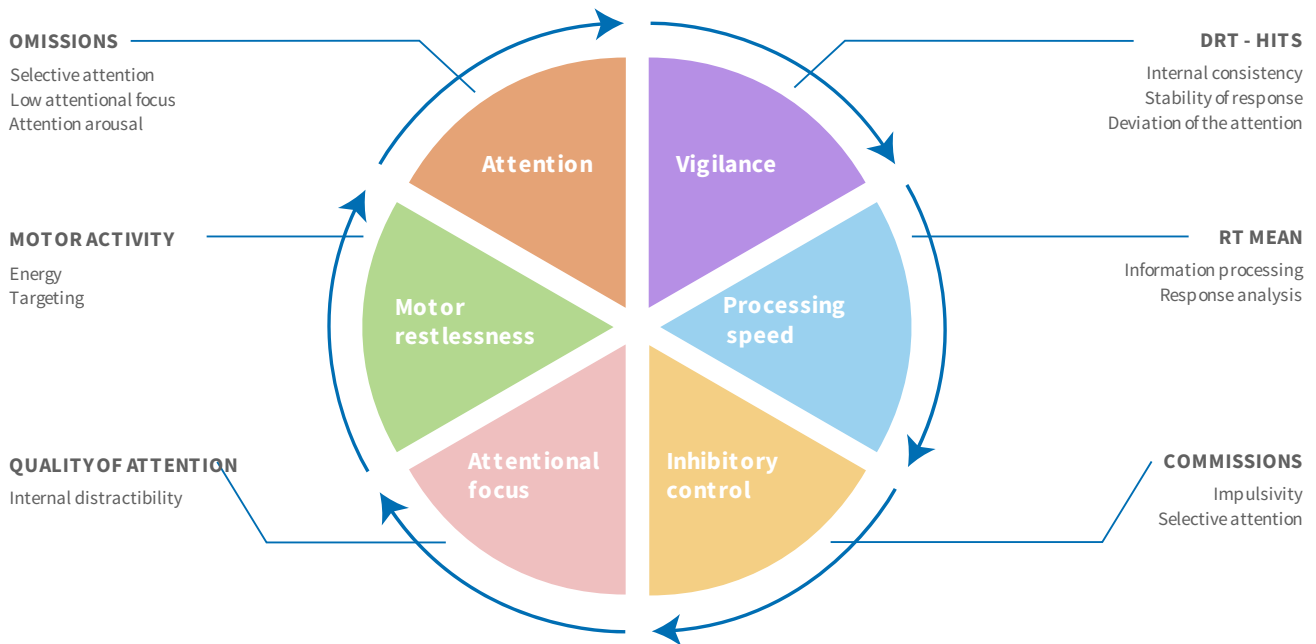
## 2. EVI - Embedded Validity Indicator

For the filtering of this assessment, an EVI (Embedded validity indicator) has been used. This ratio (EVI) shows performance problems during the administration of the test. This allows the professional to assess whether problems of performance incongruence are detected that could affect the results before a clinical diagnosis is considered.

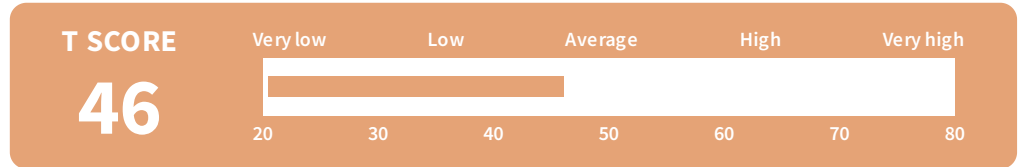
In the case of **Markel**, **this assessment meets the requirements to be considered valid in its execution and the results can be analysed.**

### 3. General indices

<p><b>ATTENTION</b></p> <p>It is the ability to sustain attention for long periods of time, or what is known as concentration.</p> <p><b>46</b></p>	<p><b>PROCESSING SPEED</b></p> <p>Mean reaction time is a highly reliable measure of processing speed and answer consistency.</p> <p><b>65</b></p>	<p><b>AUDITORY AND VISUAL</b></p> <p><b>44</b>      <b>45</b></p>
<p><b>VIGILANCE</b></p> <p>Deviation of reaction time is a measure of variability and answer inconsistency, and it can be a measure of a decrease in vigilance.</p> <p><b>36</b></p>	<p><b>MOTOR ACTIVITY</b></p> <p>Motor activity may be related to the diversion of attention to external stimuli or sterile motor activity.</p> <p><b>20</b></p>	<p><b>INHIBITORY CONTROL</b></p> <p>Commissions are errors interpreted as measures of lack of response inhibition or motor lack of motor control.</p> <p><b>31</b></p>



## 4. Attention

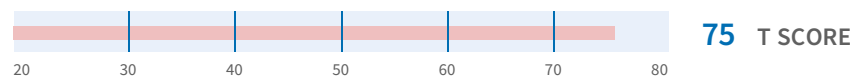


**Sustained attention** corresponds to the ability to attend to a stimulus or activity over a long period of time, whereas **selective attention** is the ability to attend to a particular stimulus or activity in the presence of other distracting stimuli.

**Hits by pressing** occur when **Markel** has to press the button according to the instructions. This variable is indicative of the level of alertness (attention and arousal). These hits are considered a measure of selective and focused attention.

**Markel's** sustained attention during the test is **average** compared to the mean for their age.

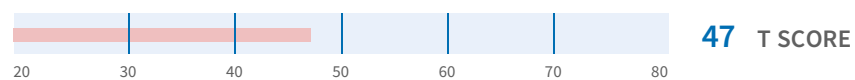
### Presence of distractors



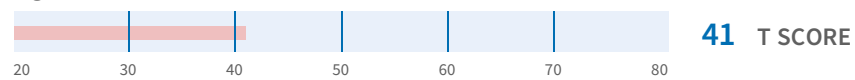
### Absence of distractors



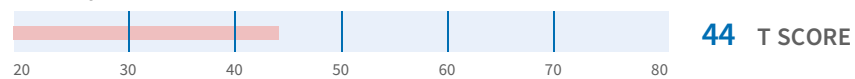
### Inhibition task



### Vigilance task



### Auditory



### Visual



## Sustained attention profile

**Markel's** attentional profile is described below in terms of the scores obtained in the Nesplora Aula School test.

The results indicate that **Markel performs better in the presence of distractors**, so a positive influence of external stimulation on the results is observed.

**Markel** shows better performance on the inhibition task than on the vigilance task, which may indicate that their attentional arousal may perform better on stimulating tasks.

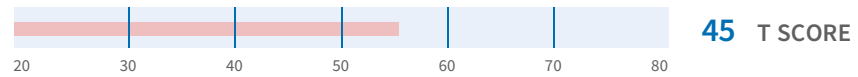
Finally, **Markel** shows **better attentional performance to visual** than to auditory stimuli.

## 5. Quality of attentional focus

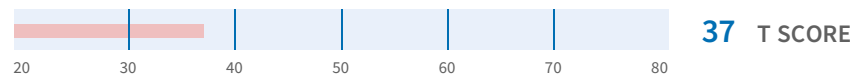
This measure allows us to assess **the quality of the child's attentional focus**, related to visual stimuli when the child is not looking away from the attentional focus.

In other words, it collects the errors by clicking that have occurred while observing the stimulus displayed on the blackboard. These data complement data from motor activity, providing input on whether **Markel's** performance quality varies depending on either internal or external stimuli.

### Inhibition task



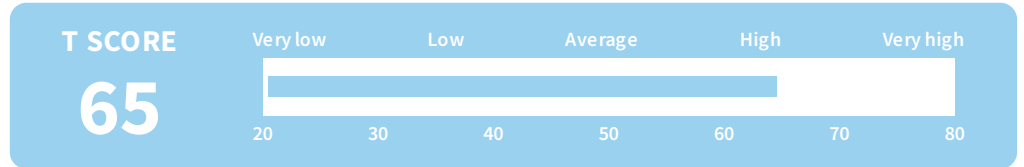
### Vigilance task



### Attentional focus profile

**Markel shows better performance in the inhibition task** than in the vigilance task, which may indicate that internal distractors alter the quality of attentional focus.

## 6. Processing speed



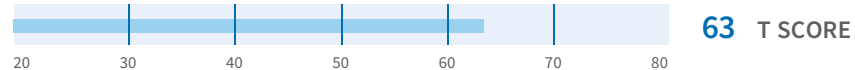
**Processing speed** is the speed with which one grasps, understands and begins to respond to information, and involves the **ability to perform easy or already learned tasks fluently**. It refers to the ability to process information quickly.

It is measured by the average time from the stimulus appearance until the button is pressed.

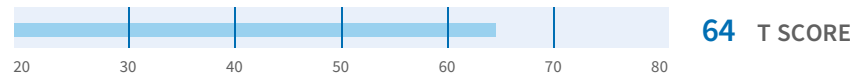
**Markel's** response time during the test is **slower** compared to the mean for their age.

\*It is important to check the speed profile against inhibitory control, as high speed may be due to inhibitory failure.

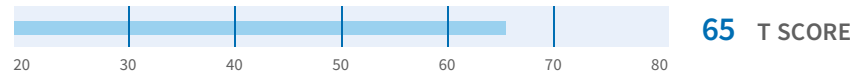
### Presence of distractors



### Absence of distractors



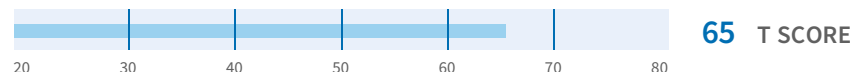
### Inhibition task



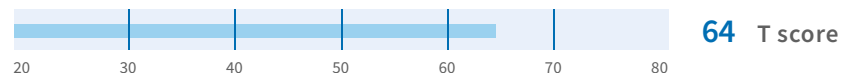
### Vigilance task



### Auditory



### Visual



## Processing speed profile

The results obtained in **the presence and absence of distractors** indicate that **Markel** performs the task **faster in the presence of distractors**, which could mean that external stimulation can improve response processing.

Markel shows **better performance on the vigilance task** than on the inhibition task. This may indicate that a lower response rate is better suited to their cognitive profile

Finally, **Markel** shows **better performance in processing visual** than auditory stimuli than their normative group.



## 7. Vigilance



**Vigilance** is the ability to maintain alertness over periods of minutes and hours, while consistency, on the behavioural level, defines the efficiency with which one responds to stimuli.

The reaction time deviation takes into account the variability in reaction time measurements throughout the test.

The response time deviation indicates that **Markel's responses are consistent and vigilance can be maintained across tasks.**

### Presence of distractors



### Absence of distractors



### Inhibition task



### Vigilance task



### Auditory



### Visual



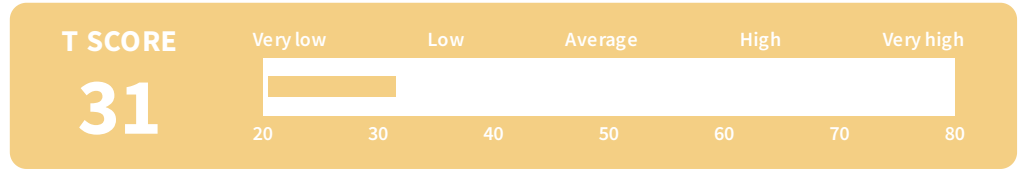
## Vigilance profile

The results obtained in **the presence and absence of distractors** indicate that **Markel performs worse in the absence of distractors**, which could mean that external stimulation may positively influence the maintenance of vigilance and response rate.

Markel performs **more consistently on the vigilance task**, which may mean that high response rate tasks alter their response rate. On the other hand, it is possible that quiet tasks fit their cognitive profile.

Finally, **Markel shows greater consistency in responding to auditory** than visual stimuli than their normative group.

## 8. Inhibitory control

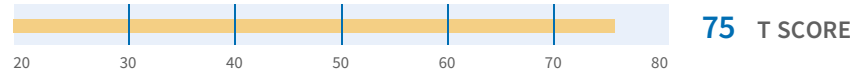


Inhibitory control is the ability of an individual to control impulsive reactions in both attentional and behavioural domains.

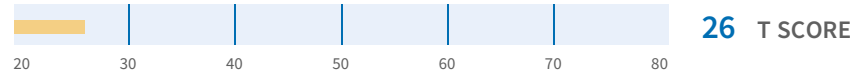
**Hits without pressing** are collected when a stimulus appears that should not be reacted to by pressing and a hit is made by not pressing. These hits are considered a measure of response inhibition or motor control.

Inhibitory control indicates that **Markel's** responses may be **uncontrolled or impulsive** for their age.

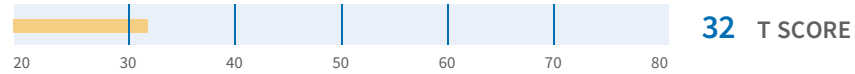
### Presence of distractors



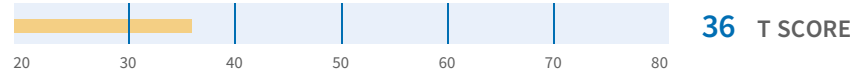
### Absence of distractors



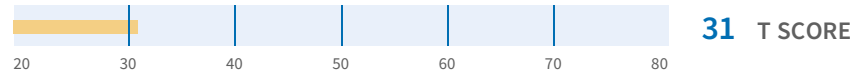
### Inhibition task



### Vigilance task



### Auditory



### Visual



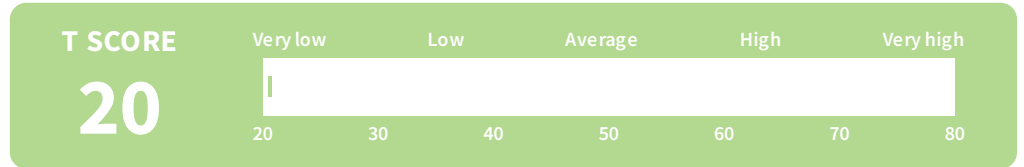
## Perfil de control inhibitorio

The results obtained in **the presence and absence of distractors** indicate that **Markel performs worse in the absence of distractors**, which could mean that the lack of external stimulation affects their ability to inhibit or control their responses.

**Markel performs more consistently on the vigilance task**, which may mean that high response rate tasks exceed their capacity for inhibitory control. It is possible that quiet tasks are more suited to their cognitive profile.

Finally, **Markel** shows **less inhibition in response to auditory** than visual stimuli than their normative group.

## 9. Motor activity

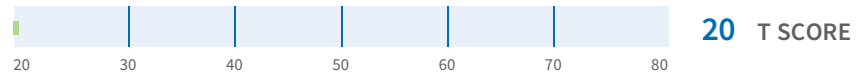


**Motor activity** is measured with different sensors in the headset and records the movement detected, as well as the direction in which the child's head is pointing during the exercise. That is, whether they have moved too much or too little or unnecessarily, and where they were looking when the test was in front of them.

It may be related to **Markel's** inhibitory control, self-regulation or management of attentional resources

The results obtained indicate **minimal** motor activity during the test.

### Presence of distractors



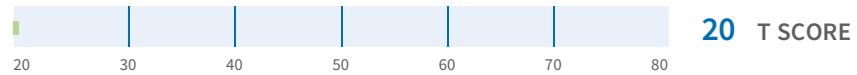
### Absence of distractors



### Inhibition task



### Vigilance task



## Motor activity profile

The results obtained in **the presence and absence of distractors** indicate that **Markel performs similarly** in both conditions, so there is no influence of external stimulation on the results.

**Markel shows more motor activity in the inhibition task**, which may indicate that high response rate tasks overstimulate them by generating more movement.

## 9.1 Motor activity graphs in relation to the distractors

These graphs reflect **Markel's** activity in relation to the distractors presented in Aula School. A peak of activity related to a distractor means that **Markel** followed the distractor with their head, shifting attention away from the task.



### INHIBITION TASK

1. Ball of paper	VISUAL
2. Teacher's footsteps	VISUAL
3. Whispering to the right	AUDITORY
4. The teacher drops a pen	VISUAL
5. A child passes a note	VISUAL
6. Coughing to the left	AUDITORY
7. A child hands a piece of paper to the teacher	VISUAL
8. An ambulance drives by	VISUAL
9. The bell rings	AUDITORY

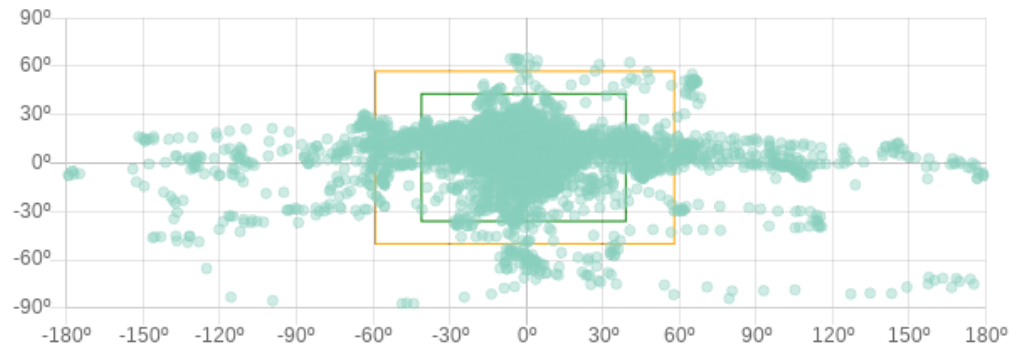


### VIGILANCE TASK

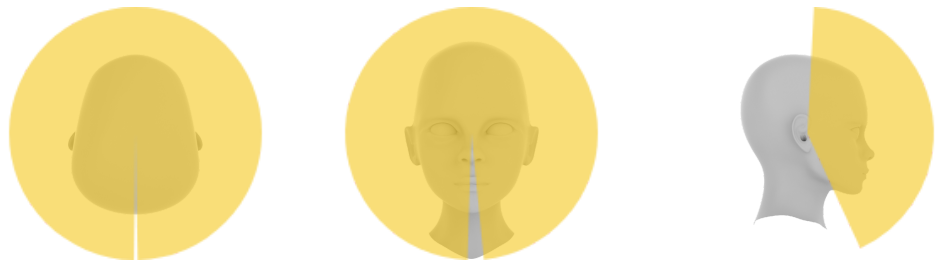
1. Whispering to the left	AUDITORY
2. Coughing to the right	AUDITORY
3. Footsteps in the corridor	AUDITORY
4. A child to the left raises their hand	VISUAL
5. Laughter can be heard	AUDITORY
6. Somebody knocks on the door	VISUAL
7. A child to the right raises their hand	VISUAL

## 9.2 Motor activity map

The graphics below show **Markel**'s head movement throughout the test. The yellow framework represents the zone in which the virtual blackboard can be seen. Movement out of that zone makes it impossible for the child to correctly perform the visual task. The dot diagram below provides a visual image of their attention to the blackboard and to the general task. If they have looked at the blackboard's zone and have not performed the task correctly, internal distractors should be considered (see Quality of Attention).



The index of motor activity can reflect many phenomena, including: the tendency to become distracted by external stimuli (see the Distractors graph), sterile motor activity (with no relation to distractors) or, in the case of low activity but poor task performance, possible internal distractors (see the Quality of Attention graph).



## 10. Orientations

### 10.1 Guidelines according to the attentional profile

In general, the Nesplora Aula School scores indicate that Markel's performance in attentional tasks could be **improved**, and based on this, it is recommended that some strategies be used to improve this skill:

- Get the student's attention before giving the group explanation
- When in the classroom, summarise individually the indications given to the group and, if possible, ask them to express verbally what they have understood
- Establish supervision and study partners with appropriate strategies and a good level of attention to help the student when necessary
- Divide the tasks into sections and supervise the time spent on each one (use a clock or stopwatch). Try to ensure that the tasks are short, well-structured and motivating
- Give instructions as you go through the different steps or write them on the board.
- Create routines that enable a better organisation of the sessions and allow the student to anticipate what is coming next
- Convey knowledge through association and experience, building on prior knowledge and bringing the content or its presentation closer to the students' interests
- Encourage practical exercises
- Discover the student's potential alongside them, helping them to feel better and enabling their personal development

### 10.2 Guidelines according to the processing speed profile

**Markel's** response time during the test is slower compared to the mean for their age, indicating that they take longer to process the information, and is therefore recommended:

- Provide a structured environment, with reminders, repetitions...
- Using a diary/planner to improve personal organisation
- Combine short periods of paying attention with a more practical task
- Allow more time for activities to be carried out
- Value the quality of the task rather than the quantity.

### 10.3 Guidelines according to the inhibitory control profile

In general, the Nesplora Aula School scores show traits of impulsivity, which indicates that difficulties may arise in inhibiting inappropriate responses and in reflecting before giving an answer. Based on this, it is recommended to use some strategies and methodologies to facilitate **Markel's** learning process.

- Agree and define rules in the school and home environment and decide on the consequences if they are not followed. Write the rules positively. They should be few, clear and consistent
- Apply consequences immediately
- Teach them self-instructional techniques, asking them to think aloud to help generate an internal language that enables the student to control their behaviour
- Work on frustration tolerance, postponing immediate rewards in favour of greater and longer-term rewards, teaching them to wait their turn when partaking in group activities
- Make positive and fair assessments
- Use logs so that they can see the learning progress they are making
- Don't direct the adjectives at the child, but instead at the surroundings. This respects their self-esteem at the same time as ensuring that they understand the type of behaviour expected of them. For example, instead of "you are messy" say "your desk is messy"
- Resolve conflicts together with the student involved, using negotiation skills, identifying the origin of the problem and suggesting possible solutions. Involve them in the solutions to correct the inadequate behaviour.

### 10.4 Guidelines according to the motor activity profile

On the other hand, the Nesplora Aula School results show that **Markel** does not have an excessive motor activity in comparison to their peer group, therefore strategies can be put in place to maintain or encourage adequate activity:

- Encourage moderate physical activity for a minimum of 60 minutes a day (this does not have to be sport, it can be games or daily activities at recess, family games, walks, etc.)
- Avoid a sedentary lifestyle. Encourage any kind of daily activity that replaces sitting
- Take advantage of daily tasks to do physical activity: walking, cycling, taking the stairs instead of using transport, lifts and escalators.

**\*\*Nesplora Aula School scores indicate some difficulties during the task (very low performance). It is recommended to take into account aspects of Markel's test performance and history to decide whether a referral to a professional is necessary.**