



# A Deeper Insight into Abacus Culture

認  
識  
不  
一  
樣  
的  
珠  
心  
算  
文  
化

單項思考  
One-Dimensional  
Thinking



雙項思考  
Two-Dimensional  
Thinking



启动思维潜能

ACTIVATE YOUR THINKING POWER

启动思维潜能  
ACTIVATE YOUR THINKING POWER

多項思考  
Multi-Dimensional  
Thinking



思考  
的方式  
WAYS OF  
THINKING

空間變化  
Spatial Variation



启动思维潜能

启动思维潜能

ACTIVATE YOUR THINKING POWER



空間提取  
Data Withdrawal

空間管理  
Memory Management





## 視覺辨識能力

## Visual Discrimination Ability



視覺辨別是指我們精確分辨細微差異的能力。對於任何年齡層的兒童來說，視覺辨別能力在學習上起著重大的作用。它讓我們可以對相似的事物進行觀察並找出事物之間的差異。在閱讀和書寫時，孩子需要能夠分辨組成文字的各種符號。

### 視覺辨識能力也是 思考能力的基礎

有視覺辨別問題的孩子常常無法分辨字與字之間的不同。此功能性失調將引發學習困難或障礙等狀況。



孩子閱讀時需要把大量時間花在區分文字的形狀和細節上。當他們在“掃描”文字時，視覺的分辨力能夠利用視覺來區別課本中的各種人、事、物的形象、形狀以及符號的能力。因此，加強孩子的視覺辨別能力是很重要的。

Visual discrimination refers to the ability to differentiate one object from another. This skill plays a tremendous role in learning for children of all ages. It lets us see differences between objects that are similar. For the tasks of reading and writing, children need to distinguish between the various symbols that comprise our written language.



### Visual discrimination ability is also the foundation of thinking ability

Children who have visual discrimination problem are often unable to distinguish differences between words. This functional disorder will lead to learning difficulties or disabilities.



In addition, the child will spend most of the time on the distinction of letter and word shapes when reading. While they are “scanning” the words, visual discrimination ability helps with identifying various people, things, objects, images, shapes, and symbols in textbooks. Hence, it is important for children to have finely developed visual discrimination skills.



# 視覺記憶能力

## Visual Memory Ability

視覺記憶能力是大腦對眼睛所看見事物的“圖像”保留並加以分類、整合再存儲到大腦中。視覺記憶幫助我們回憶信息，如字母、數字、文字和所看到的圖片等。



視覺記憶力能力不足導致抄寫困難。例如：孩子望著黑板上所寫的字時，需要視覺記憶將所看到的文字抄到自己的練習簿上。視覺記憶正常運作的孩子每次能記上數個字。反之就必須一筆一劃才能完成導致許多功課都無法記錄在功課備忘冊，而且出現看錯所抄的位置，跳行、跳字或重複字等狀況。另一方面，他們還需要不斷往黑板及練習簿上來回張望，一個字可能需要張望數次且還會出現不知抄到哪裡窘境。

Visual memory is the ability of the brain to preserve, sort, integrate, and then store the “images” of the things seen by the eyes in the brain. It helps us recall information such as letters, numbers, words and pictures seen.



Children with visual memory problems may struggle to copy work from the board. When a child is looking at the words written on the blackboard, he needs the visual memory ability to copy the words into his exercise book. The child who has functional visual memory ability should be able to copy several words at a time. On the contrary, a child who has below-average visual memory ability has to trace each stroke one at a time which causes missing information of the homework into the homework notebook. He could make many mistakes such as loss of place, skipping lines, skipping words or repeating the words. On the other hand, they also need to constantly look back and forth from the blackboard to exercise book. One word may need to be looked at several times and sometimes he might face the dilemma of being unable to find the place where he was copying from.

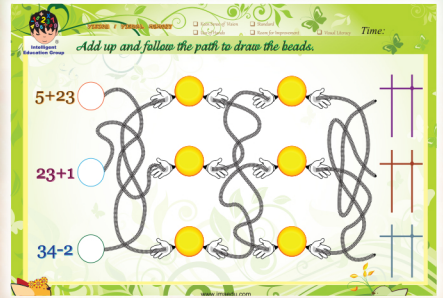




## 眼球追蹤能力 Eye Tracking Ability

視覺追蹤能力是指眼睛能有效地從左到右注視或追蹤某一個活動物體的能力。視覺追蹤能力與日常生活有著密切的關係，尤其是閱讀與書寫。

視覺肌肉發育不良將導致眼球無法進行左右移動以及上下轉動。當孩子在抄寫時，雙眼需要聚焦於遠處黑板上的字，然後再把焦點轉移至練習簿。



對焦能力不足將導致近端與遠端距離的交接過程出現功能性問題而引發無法順利抄寫的狀況。



眼球追蹤能力受阻的孩子也無法跟著老師的步伐進行文字“追蹤”。因此，視覺追蹤能力不佳的孩子往往在學校面對許多困擾，因為他們在閱讀和抄寫時經常漏字跳行。閱讀對他們來說是一個極不舒服和疲累的過程。

Visual tracking is defined as efficiently moving the eyes from left to right or focusing on an object as it moves across a person's visual field. This skill is important for almost all daily activities, especially reading and writing.

Underdevelopment of visual muscles could cause difficulties in eyeball up-down and left-right movement. When a child is copying from the board, his eyes need to focus on the words on the board in the distance, and then shift the visual focus from blackboard to the exercise book when writing it down.

Inadequate ability of visual muscles to focus in the distance and then up-close could cause problems during the transition between far and near hence unable to copy smoothly from the blackboard.

Children with difficulties of eye tracking also have a hard time keeping up with the speed of the teachers in class. Thus, children with eye tracking problems often struggle in school because they always lose their place, skip or transpose words and have difficulty comprehending. Reading is an uncomfortable and tiring process for them. This is also one of the causes of inattention. Serious cases can trigger lazy thinking problem.

