

# **The role of neuroactivation in children with learning disabilities**

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**Feedback**

# KEY WORDS

- **Processes**
- **Proceduralization**
- **Automaticity**



**FLUIDITY**

**NOT SPEED**

# TIMING PROBLEM

- A delay of the start action from the preparation process (G. Chiarenza)
- Problem in rhythm, tempo ( M. Monthstephen )
- Slowness in activation, Incipit (P.Crispiani)



# Cognitive Motor Training

FROM A PASSIVE CONDITION TO AN  
ACTIVE AND DYNAMIC ONE



**TO BE FUNCTIONAL  
AND PROMPT**

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# FIRST STEP

- The level of **initial activation** (**incipit**) assumes a central importance in the determination of efficiency, especially in contemporary tasks.

# Cognitive Motor Training and brain

**The CMT makes easier fluidity in execution and self-regulation processes and it can improve the neuro-psychomotor organization of the person and the cortical inter-hemispheres streams.**



# CROSS SYSTEM

- Greater efficiency of cross system related to a functional conjunction in reading processes achieving two functional gains.
- Readiness in reading ( incipit)
- Better fluidity in reading

Cfr. Piero Crispiani, The Crispiani Method, 2016

# WHY CMT?

- **Linguistic competences are related to:**
  - **Space – time**
  - **Executive functions**
  - **Prompt activation ( incipit)**
  - **Lateral dominance**
  - **Rhythm and timing**



# Lack of automaticity makes child.....

- **Slow in the activation**
- **Not well coordinated and accurate in the performance**
- **Uncertain in the execution( difficulty in planning the start of an action)**

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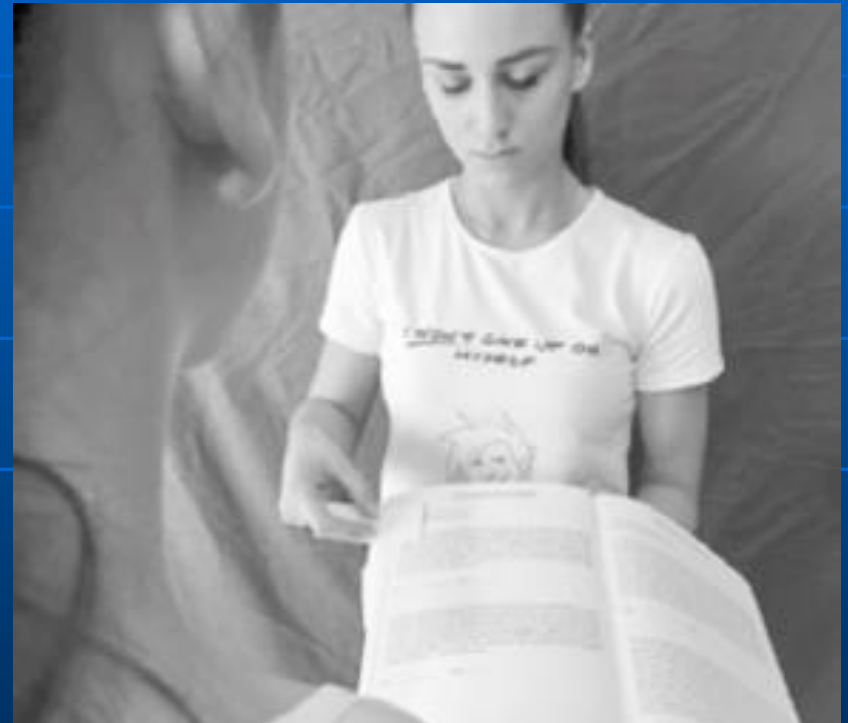
# Cross Patterns Training

- . The training provides infinite variety of exercises with movements, rhythm and speed and it can be easily applied in group activity or individually.



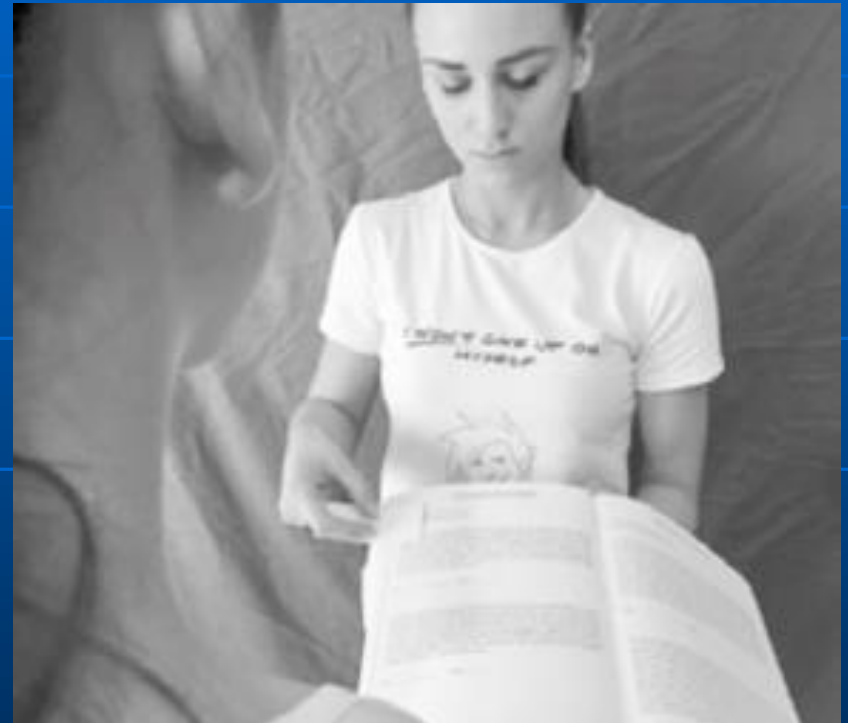
# Reading phase: global approach

- Improving from left to right while walking on spot  
**PROMOTING FLUENCY** and not speed



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- Improving from left to right while walking on spot  
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# Improve eye tracking

( P. Crispiani, E. Palmieri, Champion Pressing, by istituto itard, 2017)



# Cognitive–Motor-Training

- CMT can be used for dyslexia, dyspraxia, motor disorders, language disorders, autism , x fragile syndrome, neuromotor pathology
- It is based on **The Crispiani Method** ( Prof. Piero Crispiani, University Macerata, Italy)
- It promotes General executive functions, procedural / sequential motor skills
- It works on the **Cross System** in the lower limbs, upper and among the arts, in general praxic performance, stressing their (incipit) readiness or rapid activation.
- It works on balance and combining language, maths and others disciplines ( collaboration with Barboleta Method Dr. Baiba Jurane)

# International Training : Hong Kong



# CMT & FRIENDS NEL MONDO

## Hong Kong, Malesia, Singapore



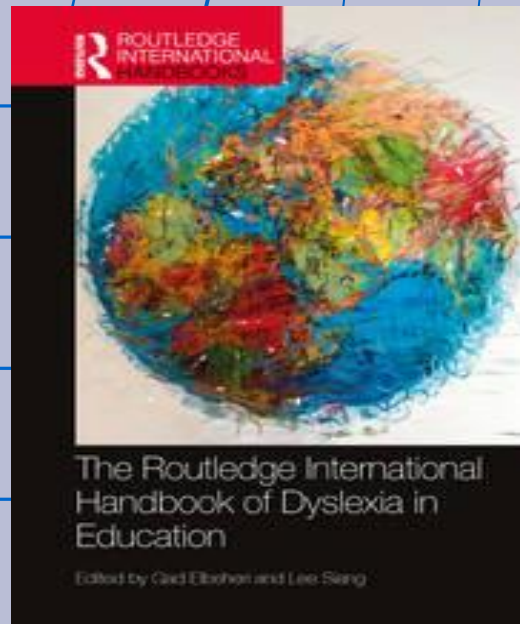


# CMT & FRIENDS IN THE WORLD

## Mumbai, Chennai....India



# Publicazioni Internazionali



- **Dyslexia in Italy:  
different  
interpretations**

Crispiani & Palmieri

- <https://www.routledge.com/One-Routledge-International-Handbook-of-Dyslexia-in-Education/Elbeheri-Siang/p/book/9780367754488>

# Publicazioni Internazionali: Singapore



*Asia Pacific Journal of  
Developmental Differences*  
Vol. 6, No.1, January 2019, pp.  
115—126

*Asia Pacific Journal of Developmental  
Differences*

019, pp. 115—126

***Early Markers of Executive  
Functions and Their Relation  
to Dyslexia: Cross Patterns  
and the Level of Initial  
Activation***

*Piero Crispiani<sup>1</sup>, Mary Mountstephen<sup>2</sup>,  
Eleonora Palmieri<sup>3</sup>*



# Publicazioni Internazionali; Singapore



*Asia Pacific Journal of  
Developmental Differences Vol.  
2, No. 2, July 2015, pp 158 - 183*  
DOI:  
10.3850/S2345734115000277

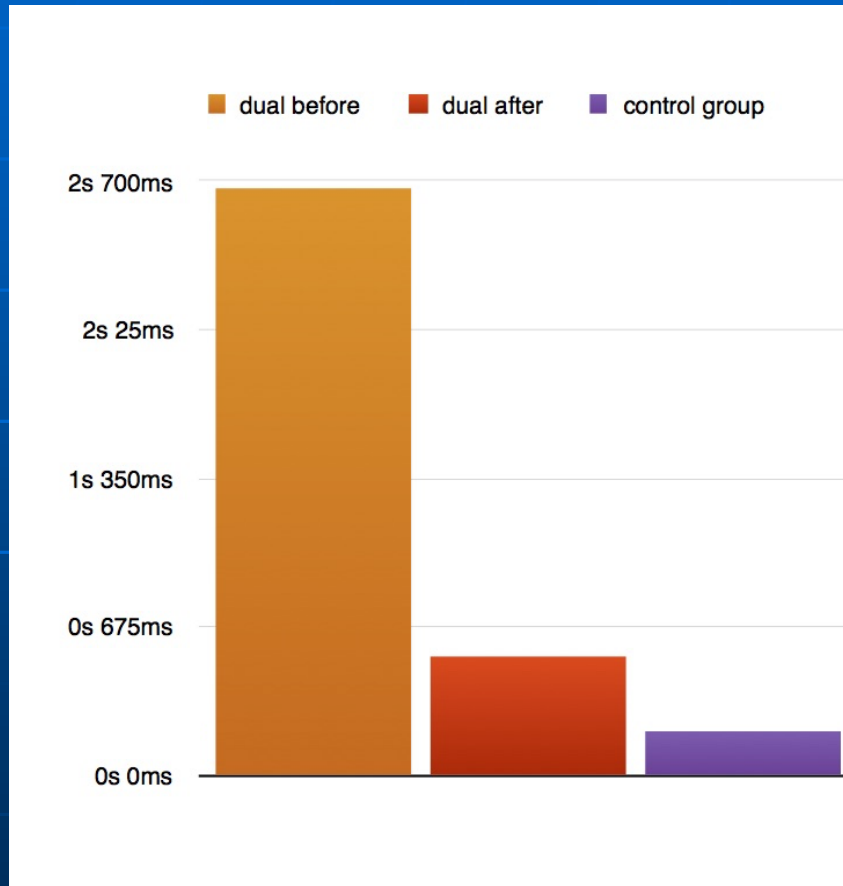
***Improving the fluidity of whole  
word reading with a dynamic  
co-ordinated movement approach***

Piero Crispiani\* and Eleonora Palmieri<sub>2</sub>



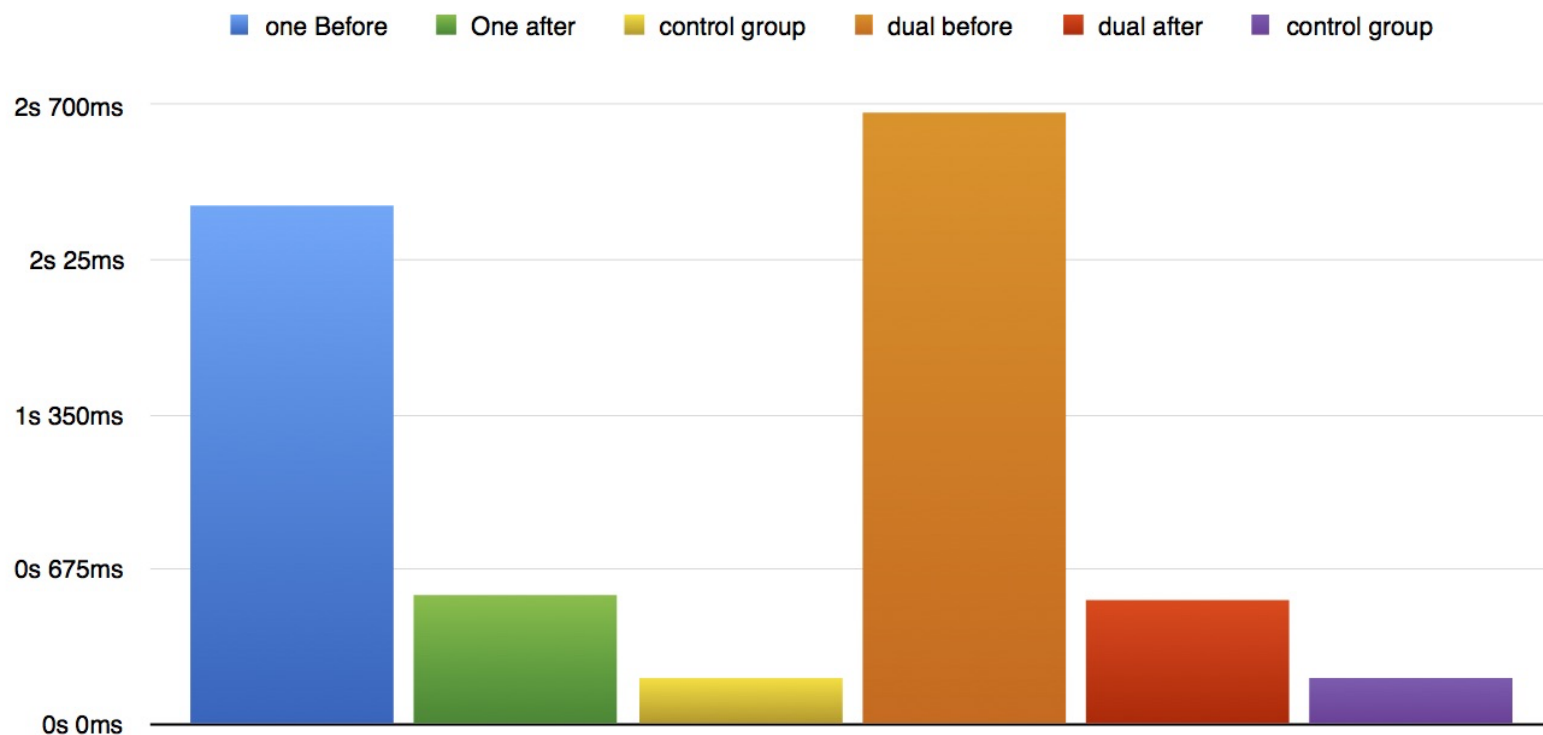
# our research

- Over 10 years of contributions on development disorders, our rehabilitative treatments are based through intensive practice on **cross pattern activation** aimed at **enhancing general executive functions** and a better development of neural circuits.

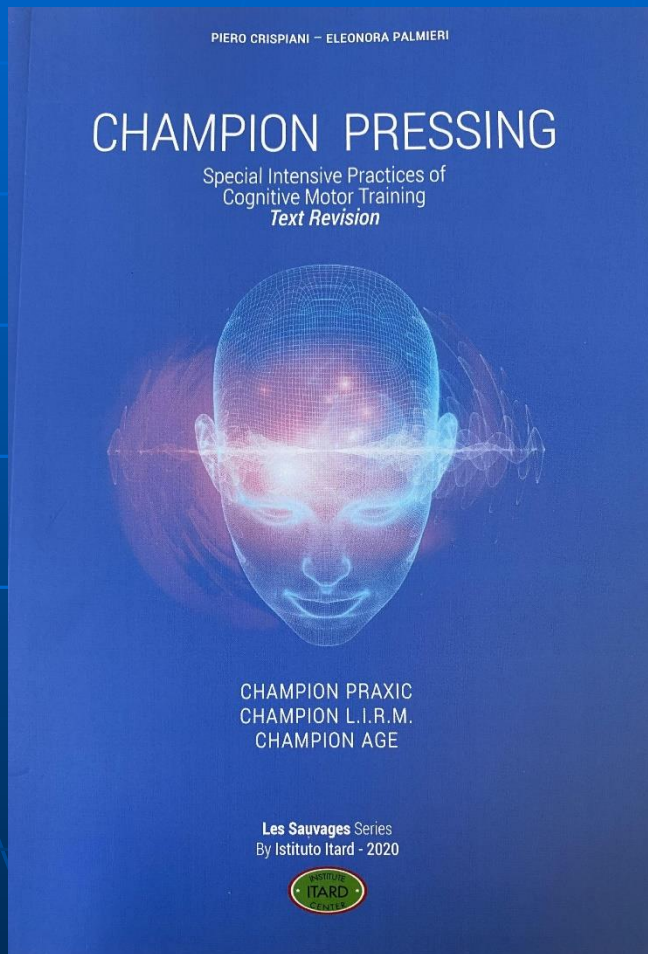


- The chart shows the slowness expressed by the dyslexic group in the performance of a dual task, consisting in the execution of cross patterns in the upper limbs combined with *basal motor skills* (walking on spot or walking back and forth), compared to the same performance in the control group. The Dyslexic group activates the cross patterns with an average of 2 s 51 ms compared to the average of the control group which activates the cross pattern of a dual tasks in just 205 ms. After the intervention, dyslexic performance improved by 46.5% to 0.545 ms, but it should be noted that it remains slower than the age matched controls.

Figure 4. Summary of improvement from pre-test to post-test for single and dual task cross patterning in comparison with control baseline.



# CHAMPION PRESSING



Thank  
you

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# Latest articles and publications

- Palmieri, E., Crispiani, P. (2015), "Improving the fluidity of whole word reading with a dynamic coordinated movement approach" in *Asia Pacific Journal of Developmental Differences* Vol. 2. n. 2, July 2015, pp 158-183
- Palmieri E. Crispiani P, "Dyslexia and Champion L.I.R.M.: Outcomes of a research study based on treatment of cross patterns", in *Asia Pacific Journal of Developmental Differences* vol. 4 n. 2, July 2017,  
pp. 195-211.
- Palmieri, E. (2015), *Speed*
- P.Crispiani E. Palmieri, *Champion Pressing*, by Istituto Itard, 2017



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