



-Learning Foundations-

Improving Reading From the Bottom Up!


LEARNING SOLUTIONS

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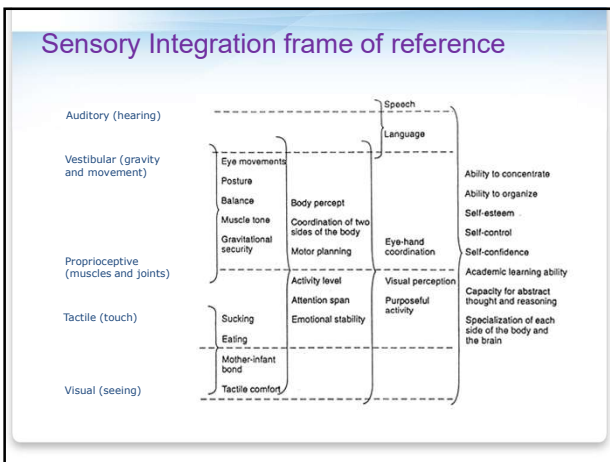
"Movement is the door to learning"

- Paul Dennison Ph.D.

"We learn to learn by organising the information we receive. The first information we receive is sensory (skin, muscles, joints, gravity, smell vision, hearing). We organise that information physically first. The first task of childhood is to be physically efficient. After all, our only tool for acting on the world is our physical body."




- A. Jean Ayres Ph.D.



Sensory Processing and Integration

To develop strong literacy skills we need:-




- Rhythm
- Good frequency perception
- Timing skills (temporal order processing)
- Visual fixation, tracking and vergence skills
- Balance, coordination and core muscle control
- The ability to sit still, pay attention and concentrate
- Integration of information from the eyes, ears and body


Rhythm, Beat and Language

Research from Corriveau & Goswami (2008) shows:-

- Younger children with language challenges are impaired in tapping to an external beat
- This is linked to language and literacy outcomes

Over many years Phyllis Weikart, Professor Emeritus at the University of Michigan as well as Kuhlman et al (1999) and Mitchell (1994) have also shown the links between rhythm, steady beat and reading ability.





Rhythm, Beat and Language

Rhythm ability predicts reading ability. David et al. (2007)

Poor readers have


- * poor rhythm
- * poor phonological awareness
- * poor rapid naming

Understanding steady beat and rhythm are central to language, listening, reading, writing and fluid movement throughout the body.

Research at The Leigh Technology Academy shows specific movement brings large improvements in reading.

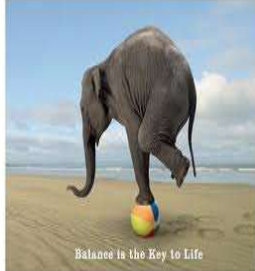
The Proprioceptive system

An unconscious awareness of body position and limbs in relation to each other



The Vestibular system

An unconscious awareness of the midlines of the body. + Gravity



Balance is the Key to Life

Vestibular activities

- ➔ Rolling
- ➔ Jumping
- ➔ Swinging
- ➔ Trampolines
- ➔ Skipping
- ➔ Rocking backwards and forwards



Visual motor activities

Hand eye coordination

- catching
- throwing

Eye foot coordination

- kicking

Integration of information from vestibular system, proprioception, visual, auditory and tactile senses.






Background to The Movement Program

TMP contains a number of specific elements to develop skills in many vital areas for learning. These include:-

- ✦ Beat competency, tempo and rhythm
- ✦ Bi-lateral integration
- ✦ Cross lateral movement
- ✦ Visual ability – tracking, pursuit movement and gaze stability
- ✦ Gross and fine motor development
- ✦ Relaxation and stress release
- ✦ Proprioceptive and vestibular development
- ✦ Spatial awareness
- ✦ Hand to eye coordination
- ✦ Reflex integration




— Bi-lateral Integration —

Crossing the central midline

Coordination of the two sides of the body in

- Symmetrical movements
- Alternating movements

Differentiating one side of the body from the other in skilled movements



— Bi-lateral Integration —

Wachs (1975)

Laterality is “the foundation for learning the directionality of letters, numerals, and works involving patterns like ‘b’ versus ‘d’, ‘13’ versus ‘31’ and ‘was’ versus ‘saw’.”

b d p q

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— Cross Lateral Development —

**The lateral or central
midline**

The Corpus Callosum

corpus callosum

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— Cross Lateral Development —

Crossing the midline is a spectrum of performance and ability

Watch for children, when undertaking midline crossing activities:

- Looking at their arms, hands and legs
- Moving arms and legs on the same side of the body

Many midline crossing activities in TMP

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— Visual Motor Skills —

Binocular vision
Using both eyes together

Vergence
The ability of the eyes to move outwards or inwards together

Pursuit movement
Tracking a moving object

Saccades
Important for reading. When our eyes jump from one place to another on the page

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— Fine Motor Skills —

Small muscle movements of fingers, thumb, wrist

Important for a wide range of tasks including:

- Writing
- Most physical tasks in daily life
- Catching

Combines with gross motor movement to help us function in our environment

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— Calming and Stress Reduction

Stress has a damaging impact upon learning, behaviour and health

Stress is down to our individual perception of events


Sensory processing and integration problems will lead to internal stress in the nervous system

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— Body Awareness / Vestibular —

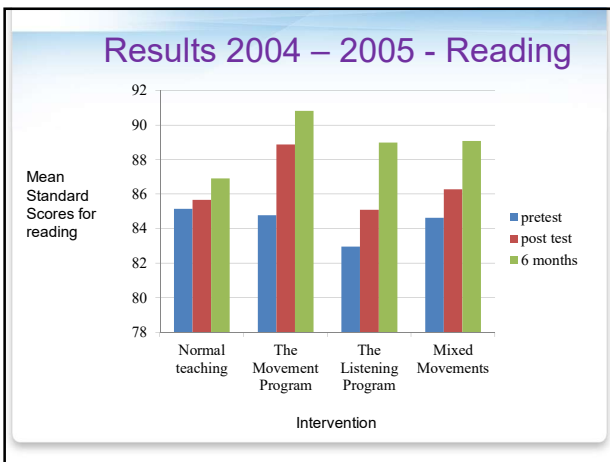
- ↑ Contained in the inner ear
- Balance, spatial orientation and stillness
- ↓ Connections to the eyes (VOR) develop up to at least 12 years old
- ← Linked to reading, attention, maths and other areas



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Implementing The Movement Program

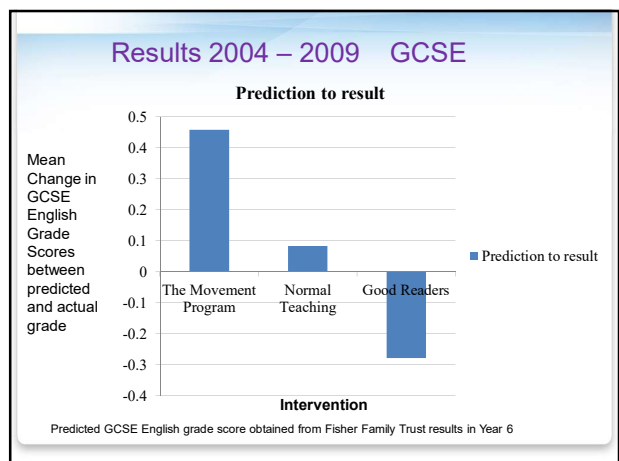
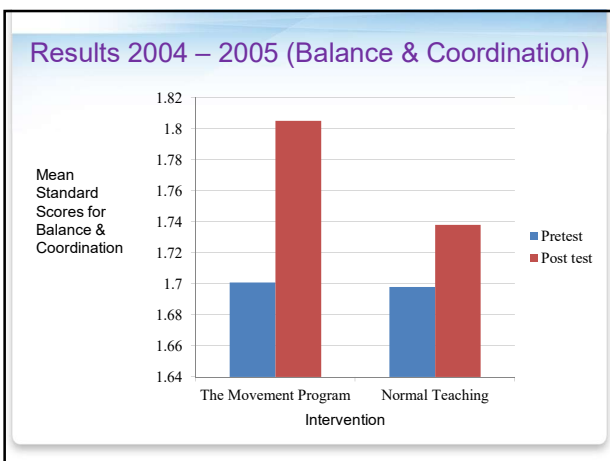
- * 5 days a week
- * 20 minutes per day
- * 12 weeks
- * Log onto to www.movementprogram.com using your User name and password
- * Press play
- * No equipment needed
- * Everything is on screen to follow

Results 2004 – 2005

- Within group statistical significance for reading
- ✈ **The Movement Program**
 - .000 (p<.001) between pre and post test at 12 weeks
 - .028 between 12 weeks and 6 months
 - .000 (p<.001) between pre test and 6 months
- 📖 **The Listening Program**
 - .138 between pre and post test at 12 weeks
 - .001 between 12 weeks and 6 months
 - .000 (p<.001) between pre test and 6 months
- ▶ **Normal teaching**
 - .676 between pre and post test at 12 weeks
 - .345 between 12 weeks and 6 months
 - .345 between pre test and 6 months

Non-parametric tests used: Friedman's Anova and Post Hoc Wilcoxon Signed Ranks Test



Implementing The Movement Program

- * 6 months in which to complete TMP
- * You can choose to repeat modules
- * Challenging movements can be worked on individually
 - In essence TMP is also a tool to identify areas of developmental delay to be worked with.



What's next?

- * Go to www.movementprogram.com
- * Watch webinar for families or Professionals
- * Click on sign up to complete your subscription
 - Enter learningsolutions in the coupon code box to gain your 10% family programme discount
 - School order form in your pack



For more information on the sensory aspects that underpin learning and any questions: -

www.learning-solutions.co.uk

www.movementprogram.com

or contact Alan Heath at Learning Solutions
alan@learning-solutions.co.uk



Thank you for your time!

