



ADD/ADHD/Autism  
Dyslexia/ Dyspraxia?

**integrated  
learning  
therapy**

*has the answer for  
learning problems*

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Incorporating the HANDLE<sup>®</sup> program  
www.ilt.co.za / www.handle.org

# What is integrated learning therapy?

in a word....  
movement

## Why move?

Function determines structure

*or..more simply put...*



The path well trod is the easiest one to use.

Our brain is composed of many billions  
of such pathways

Just like a path through a forest, we  
need to use the ones we want, or they  
will become useless.

Daily repetitive movements work to re-lay and  
entrench the needed neurological pathways in  
order to increase learning efficiency.

This helps to improve speed of thought, focus,  
concentration, auditory and visual processing,  
balance, muscle-tone and fluidity of  
movement.

As the name implies, ILT brings together knowledge and practice from various fields. These include neurophysiology, cognitive psychology and sensory integration and nutrition. ILT uses this knowledge to help overcome problems associated with learning and the demands of living. As such, our approach is eco-systemic. It considers everything within the individual .

## **Promoting learning readiness**

- ILT is committed to helping children develop a readiness to learn. This is not quite the same as school readiness. In research conducted in South Africa, it was found that 51% of learners reported difficulties in school. The most common problems were concentration and focus, task completion and reading. Yet nearly every one of the children in the study had been found to be school ready.
- These problems are all linked to neurological immaturity and could be helped by a movement program designed to encourage natural neurological development.

# Why ILT?

The body functions as a holistic organism through a complex interplay of many systems. Traditionally, we have attempted to solve problems by addressing them at only one level, based on the narrow perspective of a single discipline (for example, psychotherapy, occupational therapy, remedial teaching, etc.) Such approaches seldom result in total or lasting success.

Approaches that we have combined into ILT are in themselves multidisciplinary by nature. These include, but are not limited to....

Based on **handle**.....

**h** olistic

**a** pproach to

**n** euro

**d** evelopmental

**l** earning

**e** fficiency

*[a drugs free approach]*

## Also incorporating ...

- Frank Belgau's balance board program
- Braingym
- Sally Goddard's reflex inhibition
- The Listening Program
- Paula Garbourg's sphincter program
- Move to Learn (based in Australia)

## Frank Belgau's balance board

Dr Frank Belgau of the visual perception Laboratory at the University of Houston, around the late 1960's noticed that there was a high incidence of balance problems and awkward walking patterns among children who were referred to him for vision therapy. He also worked with astronauts and noticed that their thinking was different when they were not bound by gravity in outer space. On return to earth, they seemed to show characteristics of what we term "dyslexia". He designed a calibrated balance board to improve vision and reading abilities. More recently, the benefits of the board have widened to include improvements to auditory processing, mathematics ability, focus, fine-motor skills affecting handwriting and speech, and automaticity of movement.

# Braingym

- Brain Gym is a series of simple enjoyable movements based on Educational Kinesiology, to enhance whole-brain learning.
- Developed by Paul Dennison.
- Works mostly on bilateral and interhemispheric integration.

# Reflex Inhibition

We are born with a set of primitive reflexes [automatic, movements directed from the brainstem], which are essential for our survival and help us to move through the necessary developmental stages.

These reflexes, though, should have only a limited lifespan, and should be inhibited by the time we are 6- 12 months old.

Primitive reflexes retained beyond 6 months of age may result in immature behavior or may cause immature systems to remain prevalent. One parent described his child as “having an infant still active within a ten-year-old’s body”.

Sally Goddard-Reflexes, Learning and behavior.

## The listening program

The Listening Program is a form of music based auditory therapy that ILT uses to address sound sensitivity, auditory discrimination and other processing difficulties and vestibular irregularities. Read more about this approach at [www.advancedbrain.com](http://www.advancedbrain.com).

## Sphincter muscles

There is in the human body a system of muscles called the ring muscles. There are ring muscles in various parts of the body, both internally and externally. It is their coordinated and harmonious contraction and relaxation that initiates breathing, digestion, circulation, elimination and all muscular movement.

When the sphincters don't work together, illness and imbalance result.

By improving the functioning of these muscles, we can free ourselves of asthma, migraines, incontinence and more.

*The Secret of the ring muscles-Paula Garbourg*

# Move to learn

*Barbara Pheloung*, the founder of Move to Learn, has spent over 35 years pioneering and developing techniques, used to overcome learning difficulties. A growing number of today's professionals, specialising in areas like LD, ADD, ADHD, Autism, Aspergers and Physical Disabilities, have adopted her techniques.

Now..A look at the systems in our body



It's a bit like building a house, if you can get the foundations [fundamental systems] strong and firm, no cracks will appear in the walls [higher functions]

## Firstly..the vestibular system. What is it?

If we think of all the systems in our body as members of a sports team, then our inner ear [vestibular] can be likened to the coach-  
the bigwig!

The vestibular does more than control our balance, it also processes all sensory information that enters the body, except taste, touch and smell.

The vestibular system consists of the cochlear, saccule, utricle, endolymphatic sac and the three semicircular canals.

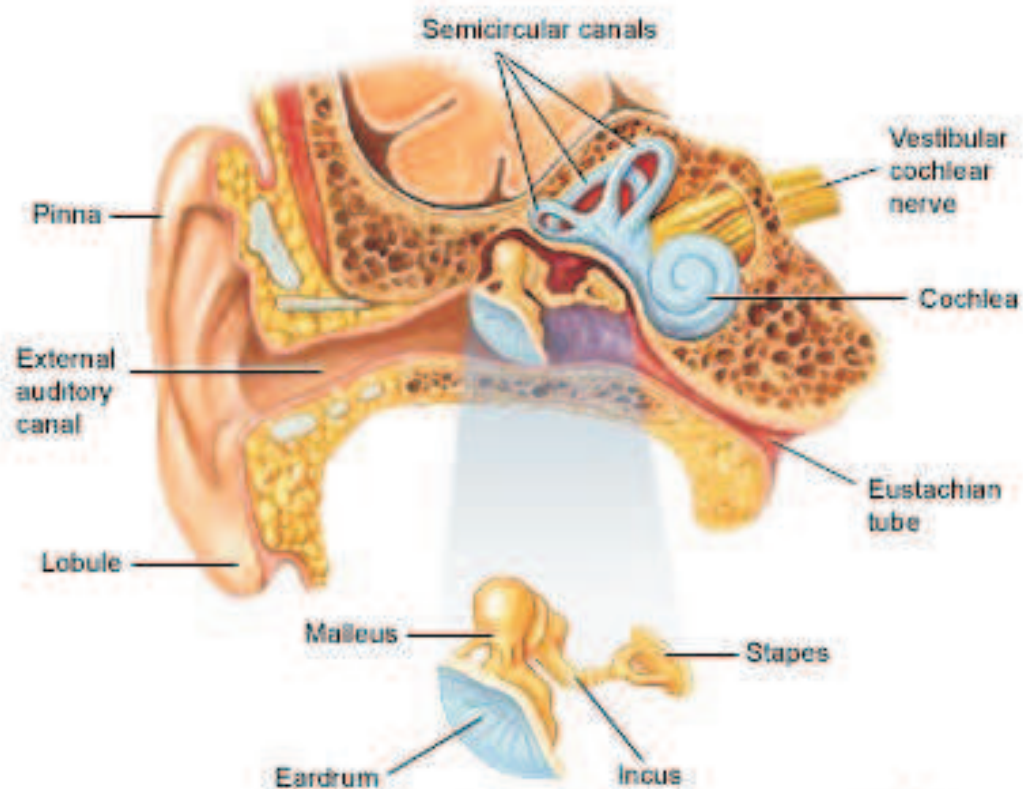
It is filled with perilymph, a thick, viscous fluid [think honey or syrup], which contains calcium carbonate crystals.

In a healthy system, this fluid moves through the canals, allowing the crystals to brush up against the hair-like nerves [cilia] which line them, resulting in a message being sent off to the brain.

For more than a decade, evidence from animal studies has suggested that damage to the vestibular system leads to deficits in spatial navigation which are indicative of impaired spatial learning and memory.

More recently, direct evidence has emerged to demonstrate that humans with vestibular disorders exhibit a range of cognitive deficits that have been shown to adversely affect attentional processes and cognitive function, as well as result in a high incidence of depression and anxiety disorders.

*Pubmed; Smith PF*



Directly or indirectly, the vestibular is responsible for nearly all of our motor functions and some of our sensory functions. It is formed during the 4<sup>th</sup> and 5<sup>th</sup> month of gestation and is the only system fully myelinated at birth.

## a damaged vestibular....

### Possible causes;

- Maternal bed rest
- Premature birth
- Restraint shortly after birth
- Exposure to excessive movement or invasive sound as fetus/infant
- Little handling and moving during infancy
- Repeated/severe ear infections
- Grommets
- Excessive use of infant seats/jumper/swing/playpen
- Scans during pregnancy
- Ear cuffing/shaken child syndrome

### Symptoms:

- Excessive rocking
- Avoidance of carnival rides, merry-go-rounds, swings
- Obsessive watching of things that spin, or excessive spinning
- of self
- Dizziness or nausea caused by watching things move
- Reports of never having felt dizzy or nauseated
- Problems of vertigo and/or balance
- Difficulty walking on uneven ground
- Need to move fast
- Motion sickness
- Dislike of crowded and noisy environments
- Delayed language development (understanding and using)
- Reading difficulties
- Inability to read or write in cursive
- Hearing problems
- Problems of auditory sequencing
- Inability to sustain listening without moving or rocking
- Placing hands over ears
- Need for repetition of words and phrases
- Word incomprehension
- Difficulty regulating speaking voice
- Dislike of music
- Avoidance of chewing
- Difficulty falling asleep or staying asleep if there is any noise or what most people perceive as "no noise"

# The visual system

## **The importance of eyesight in learning and behavior is**

well recognized, and children are tested regularly on

visual acuity. But visual health goes far beyond 20/20 vision.

The ability of the eyes to work together to focus on a single point

(binocularity)

and to move smoothly over a line of print

(visual tracking)

is crucial to success in all academic areas.

## **Clues that may indicate a weakness in the visual system include:**

- Difficulty in sustaining eye contact
- Poor eye-hand coordination
- Pain, watering or discomfort when required to perform visual tasks
- Inability to read without losing place
- Rubbing of eyes after use
- Frequent headaches after visual work
- Frequent stomachaches after visual work
- Difficulty copying from the board
- Skipping words while reading
- Reversal of letters and words while reading
- Generalized light sensitivity
- Poor three dimensional perception
- Insecurity going down stairs

# Tactility



## Tactility

Take a look at the human body and notice how much of it is covered by skin.

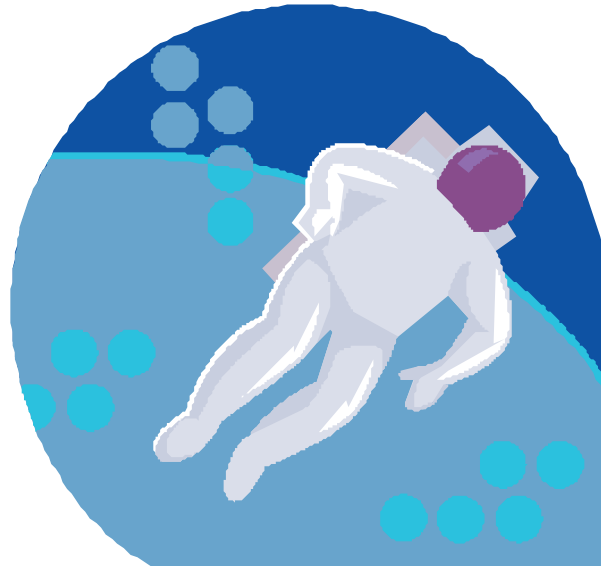
The sense of touch plays a significant role in our understanding of ourselves and how we respond to the world around us.

Dysfunction in the tactile system can lead to problems with writing, grooming, and social interaction.

**Clues that may indicate a weakness with tactility include:**

- Extreme ticklishness
- Aversion to being sticky, dirty, sandy, messy, etc.
- Unaware of being sticky, dirty, sandy, messy, etc.
- Dislike of being physically guided (being taken by the hand or given gentle guidance with a hand on the back)
- Tendency to touch other people or objects excessively
- Unusual pencil grasp (e.g. with the tip of the thumb off the writing implement)
- Dislike of (or reaction to) synthetic fabrics
- Avoidance of touch (by hands or mouth) of anything 'mushy' or 'slimy' or having mixed textures
- Intolerance of haircuts, hair brushing, face washing, finger-nail cutting
- Unusual reaction to the application of lotion
- Intolerance to socks with seams, loose threads, loose elastic
- Need to remove tags from clothing
- Inability to sleep with a top sheet on the bed, or with a top sheet that is not tucked in military style
- Sensitivity to elastic waistbands, belts or starched or stiff clothing

# Proprioception



## Proprioception

Proprioception is the brain's unconscious sense of where the body is in space. If the brain is receiving inaccurate information from the body about its position in space, sleep, attention and social interaction may suffer.

Clues that may indicate a weakness in proprioception include:

- Need to be held, swaddled, snuggled
- Unusual need to have physical contact with another person; clinging
- Hysteria over hair washing or pulling of shirts over the head
- Avoidance of activities that require closing the eyes (such as Pin the Tail on the Donkey)
- Discomfort or disorientation in the shower
- Difficulty falling asleep and staying asleep
- Sleep walking
- Falling out of bed
- Feeling of floating
- Extreme restlessness while sleeping
- Difficulty getting up and moving after sleep (as if strings were cut)
- Need for heavy covers or clothing or a backpack to feel grounded
- Need to have a light on to sleep (fear of the dark)
- Avoidance of team sports
- Dislike being in crowds
- Preference for and greater skill in swimming than in other sports
- Clumsiness, tripping over own feet, bumping into things
- Difficulty grasping mathematical concepts
- Accident-prone behaviors
- Insecurity going up stairs



# Kinesthesia

## Kinesthesia

**Kinesthesia is your body's sense of movement.**

Memory from muscle movement is responsible, in part, for a child's success in activities such as riding a bicycle and writing.

**Clues that may indicate a weakness in kinesthesia include:**

- Inability to carry on a conversation while walking
- Clumsiness in using eating utensils
- Difficulty expressing ideas in writing
- Slow articulation of words or ideas
- Awkwardness in dressing and grooming skills
- Difficulty in acquiring rapidity in typing, using a 10-key, computer keyboard, etc.
- Trouble getting dressed, etc. in the dark or with eyes closed



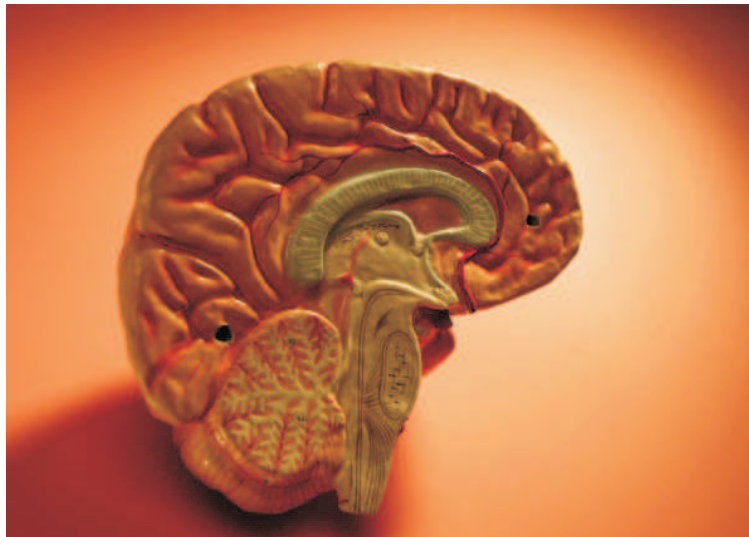
## Differentiation

# Differentiation

**Differentiation is the ability to move one body part without the unintentional movement of other parts.** The ability to move one's eyes independently from the head is required for reading. Differentiation of fingers, one from another, is needed for fluid writing. Differentiation also allows us to mentally prioritize and focus on the task at hand.

**Clues that may indicate a weakness in differentiation include:**

- Knocking things over at the table
- Startle reactions
- Unintentional body movement often interpreted by others as misbehaviors when standing in line, sitting at circle time, etc.
- Unintentional movement of the head or jaw when the eyes are tracking
- Unintentional movement of the opposite hand when one hand is engaged
- Unintentional movement of the legs when one hand is engaged
- Tics that involve more than just the eyes
- Difficulty sorting out fingers for fine-motor coordination
- Movement of the tongue and/or mouth when concentrating



## Interhemispheric Integration

# Interhemispheric Integration

**Weak connections between the two sides of the brain** can be implicated in many academic, social and behavioral challenges, as it's necessary to pull from both sides of the brain to balance logic with emotion, details with the bigger picture, and achieve optimal proficiency with language and learning at all levels.

**Clues that may indicate weaknesses in interhemispheric integration include:**

- Delayed language acquisition
- Problems comprehending directions
- Difficulty finding the right word
- Challenge to tie shoelaces
- Trouble getting dressed (e.g. pulls on pants with two legs together, needs help getting arms into sleeves)
- Difficulty learning to swim or pedal a bike
- Weak organizational skills
- Significant reading problems
- Trouble understanding concept of consequences or cause and effect

# Neurodevelopment

**We know a lot about the physical development of children**, and we are comfortable with the concept of employing developmental milestones, such as first steps and first words, to gauge a child's progress. We test and evaluate a child's educational growth, sometimes even before they've reached school age. We have even begun to recognize the importance of mental health in children. When you think about how much we do know about children and their development, it's hard to understand why there are so many that continue to struggle with learning and/or behavior.

All children possess the potential to learn; the possibilities are unlimited. And just as crawling sets the foundation for walking in a child's physical development, there are building blocks—neurodevelopmental systems—that pave the way for academic, social and behavioral learning. As you learn more about the neurodevelopmental systems that we have touched upon, you will see that the systems of some children are weak, and that, until strengthened, these children simply have to work harder.

Each neurodevelopmental system :

- must be functional,
- must be able to work with other systems,
- must work in the right sequence,
- must not interfere with other systems at inappropriate times.

It may sound like it would be difficult to figure out, but actually kids are providing us with clues all the time. Their behaviors and reactions to learning are a result of their systems' attempts at telling us what is going on with them. As you begin to understand how to look at these behaviors and reactions differently, you will also begin to understand how to better help the children you teach.

## The ladder of development...

# Gentle enhancement

In all activities, to incorporate the theory of Gentle Enhancement, it is necessary to look for State Change signs in the child with whom you are working. This is particularly critical when working on activities that stimulate the vestibular system. State change signs that are indicative of the need to **stop** an activity include

1. a change of facial color
2. reddening of the ears
3. a change in visual focus
4. a change in breathing patterns
5. a marked change in muscle tone--either flaccidity or tension.



# A Poem

## HEAR WHAT I AM DOING

Please, mom, **hear what I am doing; see what I am saying.**

*The world is a crazy, confusing, scary place for me.*

*I can't do the things other kids do—my body doesn't work right.*

*But inside, I'm just like other kids—I need to be loved and appreciated; I need to belong, to fit in; I need to contribute, to be useful; I need to be heard and understood; I desperately want you to be proud of me.*

*I want to tell you my needs, my feelings, my thoughts, but they get trapped inside me because I **can't get my mouth to say the words.***

***There gets so much piled up inside me that sometimes it just blows up everywhere. And I know you're disappointed in me, and you get angry at me, and somehow, it's all my fault.***

*My actions speak so loudly, you can't see what I am saying. Yet, my **actions are my saying. My body says what my mouth can't. I act out my feelings, but often, the acting out is such a problem that my feelings go unnoticed. But I have no other way of telling you my feelings.***

*I want to cooperate, to succeed, to contribute, to feel good about myself, but to do that I must be heard.*

Please, mom, **hear what I am doing; see what I am saying.**

Carolyn Hunsinger  
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