

**Helping Extraordinary People Do Ordinary Things
Getting Beyond the Labels with HANDLE®
Holistic Approach to NeuroDevelopment and Learning Efficiency**

**A Neurodevelopmental Approach to Sensory, Learning,
Behaviour and Social Differences**

*By Valerie MacLean
Neurodevelopmental Educational Therapist, HANDLE Practitioner and Instructor
www.phoenixneurodevelopment.com*

Many of us live with, work with, and interact with children and adults who are experiencing sensory, cognitive, motor, learning, social and behavioural difficulties. We often recognize that these individuals may be struggling with an underlying condition and we may simply explain their behaviour as part of the label we, as a society, have placed on them. However, what we sometimes fail to recognize is that these individuals are focusing an extraordinary amount of energy attending to their inner needs. They simply have to expend more energy focusing on their inner needs than communicating in the traditional sense with those around them. Consequently, they have less mental energy available to develop and learn in our traditional sensorial world.

What is HANDLE®?

Just as no two fingerprints are alike, no two people have the same arrangement of pathways that carry messages to, within, and from their brain. Each of us acquires slightly different neurodevelopmental patterns. Many children and adults who experience difficulties in learning, task performance, or social interaction have neurodevelopmental differences that interfere with neural processing. For example, when systems that support vision or the sense of body in space are weak, then reading, math, general efficiency, and even social skills may suffer. Trauma may further complicate matters.

HANDLE, as the name implies, is a holistic and developmental approach to neurological systems. It incorporates research and techniques from the fields of medicine, rehabilitation, reflexology, psychology, education and nutrition, emphasizing non-drug methods to address root causes of disordered behaviour. HANDLE Practitioners and Screeners use a non-judgmental multi-systems approach to assess irregularities in neurodevelopment. They use this approach to provide insight into which parts of the person's brain are immature, damaged or disorganized. Through facilitation of neuroplasticity and synaptogenesis, within the paradigm of Gentle Enhancement®, Providers guide the gentle reorganization of the systems through neural rehabilitation.

Behaviour as Information Output

Our behaviour is communicating what we are not able to express with words. In many cases, we are not consciously aware of what our behaviour is communicating, nor where the behaviour originated. We can relate this to an information input/output model. If we are to accept that behaviours are the output of our thoughts, feelings, emotions, ideas and needs, then what is our input? What needs to be expressed?

Information Input

Our senses are the windows into our brain. Our senses allow us to take in information about our world. Judith Bluestone, originator of HANDLE, the **Holistic Approach to NeuroDevelopment and Learning Efficiency**, created a hierarchical schematic to illustrate how the development of the basic senses and neurological processing regulates behaviours and learning for most neurotypical people. It is entitled the Sensory-Motor Independency and Interaction Model – The Substrata for Mental Processing.

Needs

Sometimes our underlying needs are difficult to define, and even more difficult to recognize in others. Those that have studied Maslow's Hierarchy of Needs are already aware that safety and security are foundational needs. Safety and security require our constant attention and energy. For most neurotypical individuals, this is done subconsciously without us even being aware of the energy expenditure or, in fact, that we are expending any energy in this regard.

For those with challenges or inefficiencies, the expenditure can be profound and can indeed consume most of our energy and attention. This leaves us very little energy to develop and learn.

Attentional Priorities

Self-protection is a Primary Attentional Priority. We all protect ourselves in the areas of our greatest vulnerability. Whenever possible, we consciously or subconsciously find ways to protect ourselves. In the current context, we find ways to protect our vulnerable sense(s).

The world around us is a sensorial place. We must find ways to manage sights, sounds, physical sensations, and other stimuli taken in by our senses. We are constantly adjusting to the world around us. Frequently, environmental offenders may be competing for our attention. Some of our attention may be directed towards the tag in our shirt, the seam in our socks, the tuna sandwich next to us, the lighting, the background conversation, or the open area behind one's back, to list a few. Some of us are able to attend to this information input with ease, and can relax, concentrate, learn, and develop.

There are individuals who are highly sensitive to environmental factors such as sights, sounds or tactile sensations, or who may have a poor sense of gravity.

Others may feel insecure in shared space. Their foundational systems are not able to efficiently absorb and process the stimuli from their world. Disorganized neurological systems may allow varied stimuli to enter the consciousness at the same priority level, causing sensory overload, and a consequential shut down of systems. These individuals may be paying extra attention to sounds, lights or other information in their environment. This utilizes energy and attention for self-regulating and self-monitoring what should be automatic, as these individuals subconsciously make it a priority to attend to their own sense of safety and security.

As an analogy, assume that we all wake up each morning with 100 units of energy. There are individuals amongst us who utilize the majority of the available 100 units of energy attending to, self-monitoring and self-regulating foundational neurodevelopmental systems that the neurotypical person rarely acknowledges on a daily basis. When the systems are not integrated (automatic), there is significantly less energy available for higher cognitive functions, such as learning, with ease and efficiency. These individuals are utilizing valuable resources, physically, mentally, and emotionally attending to foundational systems, which take precedence over academic achievement, social development and growth.

A lack of focus, concentration or attention is often seen as a lack of motivation or as laziness. Labels such as ADD and ADHD may not accurately reflect the experiences, as everyone is always attending to something. The question is, to what are they attending?

Disorganized or underdeveloped foundational neurodevelopment systems utilize attention and mental energy to self-monitor and self-regulate what should be automatic, leaving less energy and attention for higher cognitive functions.

Processing Information – The Balancing of Stimuli versus Needs

When the neuropathways are underdeveloped, or become disorganized, messages may be transmitted at a sluggish pace, may be discarded, or may be confused when new messages come along.

When neuroprocessing is not efficient, individuals may be hypersensitive or hyposensitive to sights, sounds, tactile sensations, or other stimuli being received. This needs to be balanced with their attentional priorities, and their inherent need for safety and security. Such stimuli may be entering the consciousness at the same intensity and priority level, causing sensory overload, and a consequential “shut down”.

Shut Down/Overload

When there is a sensory overload, the brain is susceptible to becoming overwhelmed by normal sensory input, resulting in a shut down of one or more of

the neural systems. This can then lead to disorganization in the neurological systems that provide information to the brain via the senses. An individual may seem to be hyper vigilant and paying attention to certain lights, sounds or other information, or seem disconnected. These shut down strategies, usually generated subconsciously, are necessary for that individual to achieve feelings of safety and security, the basic requirement of all of us.

Behaviour is communication. Perplexing behaviours are often a direct response to sensory overload, the result of neurological dysfunction. The brain is then susceptible to becoming overwhelmed by normal sensory input, resulting in a shutdown of parts of the neural systems. This may result in emotional melt-downs, or what may be more properly termed flare-ups. Individuals may act out in anger and frustration over not being able to concentrate on, comprehend, or respond appropriately to the tasks at hand.

I have a flare-up... please help me! Behaviour may be a direct response to sensory overload, the result of neurological dysfunction or immaturity.

Sympathetic Division of the Autonomic Nervous System

Neurologically, a shut down/overload is the engagement of the Sympathetic Division of the Autonomic Nervous System – a flight, fright, or freeze response. This is a physiological response to stress, or perceived distress, by the body- to ensure survival. When the body has invoked the Sympathetic Division, the individual is not available to learn and strengthen. Many individuals activate this stress response too frequently, and for long durations.

It is the important recognition of the shift, the state change, from the Parasympathetic to the Sympathetic Divisions of the ANS, that the foundational HANDLE paradigm of Gentle Enhancement[®] is founded. Stress systems do not strengthen, they shut down.

Promoting Neuroplasticity and Synaptogenesis

Neuroplasticity and synaptogenesis are life-long processes through which the brain continues to develop and change in response to the world around us. HANDLE promotes the development of neuropathways by providing organized, predictable, reliable, repeatable movement-based information to the brain, supported by proper nutrition. Across the lifespan, the brain continues to adapt in relation to input, through neuroplasticity and synaptogenesis. The brain and the nervous system are in a constant stage of change, except when in the presence of stress. Imposed demands on the developing systems, when conflicting with an individual's internal need, inhibit typical neurodevelopment, and can even cause developmental disorders. Toxicity and nutrition are two environmental factors that greatly affect neurodevelopment. HANDLE recognizes that organized movement, supported by proper nutrition organizes mental processing, influences the body's biochemistry, helps mold the actual structure of the brain and leads to effective myelination of neural pathways.

Neurodevelopmental Readiness

Neurodevelopmental Readiness is a frequently overlooked component in therapeutic and educational models. Readiness is neurodevelopmental in nature and thus requires organized, predictable, reliable, repeatable, and non-stressful movement supported by proper nutrition. Demanding achievement before there is readiness leads to problems.

Neurodevelopmental Readiness can be visualized as the rungs on a ladder, with neurodevelopment as the bottom rung, followed by attention, behaviour, organization, academics, and memory as the top rung.

Gentle Enhancement® is the key

Learning

Differences in sensory processing (in any of the systems) influence one's preferred learning modalities. Serious disorders in one system and/or significant disorders in a number of systems create learning challenges that will remain until the foundational systems are strengthened and integrated. Ideally, all senses must be strengthened and integrated in order for the individual to effectively take in and process sensory information from the world around them. Individuals often spontaneously compensate, yet these strategies trade immediate action or effectiveness for efficiency.

Sit Still & Listen: The Dilemma - Which one shall I choose? For example, jumping, spinning, any rapid & vigorous movement may be self-protective, shutting down an overloaded vestibular system.

HANDLE Assessments and Programs

HANDLE is provided to clients of all ages by Practitioners and Screeners through an Evaluation process. The Evaluation process shows a provider which neurodevelopmental systems are under stress and helps to provide information about the root cause of presenting concerns. The Practitioner draws inferences about the nervous system by observing how the client is completing tasks, in addition to examining their developmental history through interviews with parents and other caregivers, as appropriate. The Evaluation process is largely observational, with a certain amount of interactive tasking and challenges, appropriate to the developmental level of the individual. It is very much focused on the client. Judith Bluestone observed that clients think we want to see what we've asked them to do. When in fact we want to see *how* they're doing it. The body tells you so much when you know how to read it – the things it avoids doing, the things it seeks, the ways it moves. It gives you a mirror to what's going on in the brain.

Following the Evaluation, the HANDLE provider develops a therapy program focused directly on the needs of the client. The HANDLE Gentle Enhancement Therapy is based on modern neuroscience and the activities are anchored in

anatomy and physiology. The individualized program of activities takes 20 to 40 minutes and is done daily, at home or at school.

Originator – Judith Bluestone

Bluestone did her graduate work in neurological impairment, behavioural disabilities and special education. She had over 15 years of advanced study including: education, counseling, human development, neuropsychology, visual processing, sensory-motor integration, nutrition, reflexology and more. Her doctoral studies were in neurodevelopment.

Judith spent 11 years in Israel, where she designed therapeutic activities for at-risk young children, teaching preschool and kindergarten teachers how to integrate the activities into the curriculum. She succeeded, where everyone else had failed, in mainstreaming the children. It was there that she developed many of the insights that were to become the HANDLE approach.

HANDLE is based on over 40 years of professional work in education and neurorehabilitation, serving schools, hospitals and numerous other organizations, as well as families around the world.

Judith was the recipient of many prestigious awards, including:

- **1989 National (Israel) Annual Early Childhood Education Award** for the program of screening and early intervention that she designed and supervised for its' implementation in Givat Olga. The program reduced the need for special education in young people from nearly 50% to approximately 4% of the targeted age group.
- **2002 Case Western Reserve University Distinguished Alumni Award** for her outstanding contribution (through HANDLE) to the fields of education and neurorehabilitation and to those served through those fields.
- **2004 Jacqueline Kennedy Onassis Award** in addition to a **National (USA) Jefferson Award** for Outstanding Public Service for creating and sharing HANDLE to enhance the quality of life of individuals and families in her community, country, and the world.

HANDLE has helped:

Individuals diagnosed with: Learning Disabilities; Autism Spectrum Disorders; ADD/ADHD; Dyslexia; Tourette's Syndrome; Brain Injury; Stroke; Cerebral Palsy; Bipolar Disorder; Obsessive Compulsive Disorder; Dyspraxia; Dysgraphia; Dyscalculia; CHARGE & other Rare Syndromes

Families concerned about: Perplexing Behaviors; Language Delays; Organizational Issues; Memory Problems; Disorders Deemed Psychological in Nature; Sleep Disorders; Work Efficiency; Social Interactions; Mental Health; Maximizing Learning Potential