The Learning Enhancement Advanced Program LEAP®

A New Approach to the Resolution of Specific Learning Difficulties.

By Dr. Charles T. Krebs
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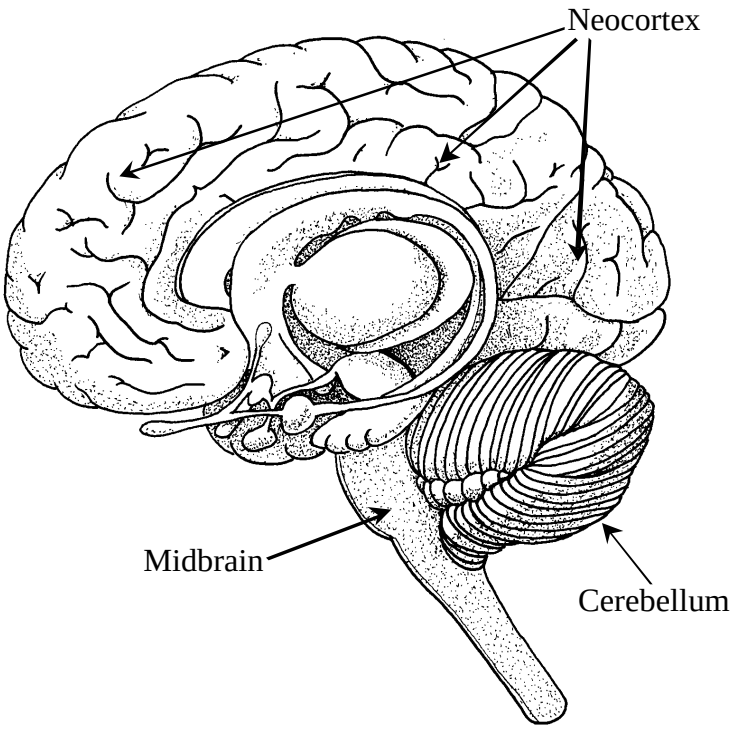

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Abstract:

The Learning Enhancement Acupressure Program, or LEAP®, has been developed over the past decade in conjunction with clinical psychologists, speech pathologists, neurologists and other health professionals, as a very effective program for the correction of most learning difficulties. LEAP®, is based on a new model of learning integrating the most recent concepts in neurophysiology of the brain and uses highly specific kinesiological formatting to address stress within specific brain structures. The application of specific non-invasive acupressure techniques can then resolve these stresses resulting in a return to normal function.

In the LEAP®, model of learning, Gestalt and Logic functions are not simply localised in the right or left cerebral hemisphere as in the popular Right Brain/Left Brain model of learning. Rather, each type of brain function or process appears to have a cerebral "lead" function that is either predominantly Gestalt or Logic in nature. Each of these cortical “lead” functions provides a “point of entry” into a widely distributed system comprising many subconscious cortical submodules in both hemispheres and many subcortical modules throughout the limbic system and brainstem.

While this allows highly efficient processing through multi-plexing and parallel processing, it means that brain processing is “time bound”. Since many components of any mental function are performed in many different parts of the brain, and often at different speeds, coherent output in the form of “thinking” requires integration and synchronisation of all of these desperate processes.
Loss of integrated brain function, I term loss of Brain Integration, thus results in the loss of a specific mental capacity, the ability to perform a specific type of mental task. When these specific mental capacities are required for academic performance, their loss can result in Specific Learning Difficulties.

Specific Learning Difficulties (SLDs) arise in this model by either lack of access to specific subconscious processing modules, either cortical or subcortical, or the inability to integrate the processing modules accessed. Thus to resolve these SLDs, you need only “open up” access to these “blocked” processing modules or resynchronise the timing of information flow between them to re-instate integrated brain function. The LEAP®, program provides an integrated kinesiologically based acupressure protocol to access “stress” within specific brain nuclei and areas that have “blocked” integrated function and that resynchronise the timing of signals between these various brain areas.

In this presentation, I will present the neurological basis for Brain Integration, and discuss why and how kinesiology can provide access to subconscious function and how acupressure can resynchronise brain function, including the results of studies demonstrating statistically significant improvements in specific mental tasks related to learning.

TO LEARN OR NOT TO LEARN - WHY? IS THE QUESTION

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Introduction to Specific Learning Difficulties:

All learning dysfunctions, hence difficulty in learning, have their root in how the brain functions. The brain is designed to "learn". From the time we are born until we die, learning is as natural as breathing, and certainly as important since our very survival depends on it. Initially it is our physical survival that depends on learning "Look both ways before crossing the road!". Later in technological societies it is our economic survival and success that are dependent upon what we learned in the educational and training environments we encountered. Since learning is so natural, why is it that some of us learn easily, others learn only with difficulty, while ours have a difficult time learning traditional skills such as reading, spelling, and mathematics at all?

You might say it is all a matter of access: what brain functions you can access, how well you can access the functions available, and what you have to access. A person with low innate intelligence, but full access to all brain functions may find learning difficult. On the other hand, a person of high innate intelligence, but with problems accessing specific brain functions may also experience difficulty learning, at least in some areas. The brain functions much like water running down a hill; it will always take the most direct processing route available. Unimpeded, water will always run straight down the hill, but if its path is blocked, it will seek the next most direct route down the hill. If that path is also blocked, it will again seek the next most direct route, etc. Each time it is blocked, the pathway becomes longer and less efficient at getting the water down the hill.

The same is true of processing in the brain. If all functions are equally accessible, the brain will always choose the simplest, most direct functions to do the processing required. However, there are many ways of performing all mental tasks and the brain will just choose the next most efficient route for processing if the most direct function is not available/accessible for whatever reason. If the next most efficient pathway is also blocked, the brain will then route the processing to other functions that are accessible, even if these functions are a far less efficient way of processing that information. If many brain functions are not accessible, the processing path may become very long and inefficient creating difficulties in doing tasks dependent upon these processes. Each time the processing path becomes longer and less efficient, the level of "stress" encountered using that pathway increases. When the level of "stress" reaches a high enough level, we may opt out of situations that require us to access these functions altogether.

Different learning tasks require access to different functions and/or combinations of functions in the brain. The brain can be divided into several functional regions, each of which processes information in different and often unique ways. The two brain regions recognised most commonly by people are the right and left cerebral hemispheres. When the brain is removed from the skull, it appears to have two distinct "halves" because of the deep longitudinal fissure separating the cerebral hemispheres (Fig. 1).

In the popular press these are often referred to as the "right and left brains" because of their anatomical distinctness and the differences in the way each hemisphere processes information.

These two hemispheres are not separate, however, as they are connected along most of their length at the bottom of the fissure by a structure called the Corpus Callosum (Fig. 1). Neurologically, the Corpus Callosum is approximately 200 million nerve fibres running between the two hemispheres. It functions much like a telephone exchange allowing a two way flow of

communication between the hemispheres. Whenever the hemispheres are required to "work together" to produce an integrated function, the Corpus Callosum is the site of that integration.

Each cerebral hemisphere carries out a number of different functions, and each processes information in a very different way from its partner. It is as if each side of the brain is a specialised organ of thought, with the right hemisphere possessing a set of functions that complement those of the left hemisphere and vice versa (See Table 1). The right hemisphere functions in most people are global or Gestalt in nature dealing with the whole and recognition of overall patterns, while the left hemisphere functions in most people deal with logically sequenced analysis of the parts of the whole. It is because of these differences in functions and processing that the right hemisphere is sometimes called the "Right" or "Gestalt" brain and the left hemisphere the "Left" or "Logic" brain.

Table 1. *Functions of and Information Processing in the Right and Left Hemispheres in most people.*

GESTALT or RIGHT HEMISPHERE LEAD FUNCTIONS:	**LOGIC or LEFT HEMISPHERE LEAD FUNCTIONS**
Spatial Orientation	Temporal (time)
Body Awareness	Mathematics
Facial Recognition	Abstraction
Music Recognition (melody)	Rhythm (counting time)
Pre-verbal & Non-verbal (gestural)	Language (verbal)
Interpreting Symbols	Assigning Meaning to Symbols
Creative/Lateral Thinking (daydreaming)	
PROCESSES INFORMATION:	
Globally, Wholistically as a Gestalt	Linearly, Logically and Analytically
Simultaneously, Subjectively	Sequentially
Intuitively	Objectively (with reference to "Facts")
"Knowing" based on Intuition	“Facts” based on Deduction

While the popular press may refer to it as "right and left brain thinking", it is not the physical hemispheres housing these functions that is important, but rather the location of the Gestalt and Logic functions themselves. In some individuals these cerebral functions may be transposed with the Gestalt functions physically located in the left hemisphere and the Logic functions physically located in the right hemisphere. By the definition of the popular press, these people would have their "right brain" in their "left brain," which doesn't make any sense. They just happen to have their Gestalt functions located in their left hemisphere and their Logic functions located in their right hemisphere. Only about 3-5% of people, however, display transposed Logic and Gestalt

functions with 95-97% of people having their Logic functions in their left and their Gestalt functions in their right hemispheres. Because the dominant hand tends to be opposite the Logic hemisphere, most people are right-handed, while many people with transposed functions (eg Logic right) tend to be left-handed or ambidextrous.

Figure 1a. The Corpus Callosum - expanded view. On the right side of the diagram the cortex has been removed so that you can see that most of the interhemispheric fibres that cross the corpus callosum connect a cortical column of one hemisphere with cortical columns in exactly the same area in the opposite hemisphere.

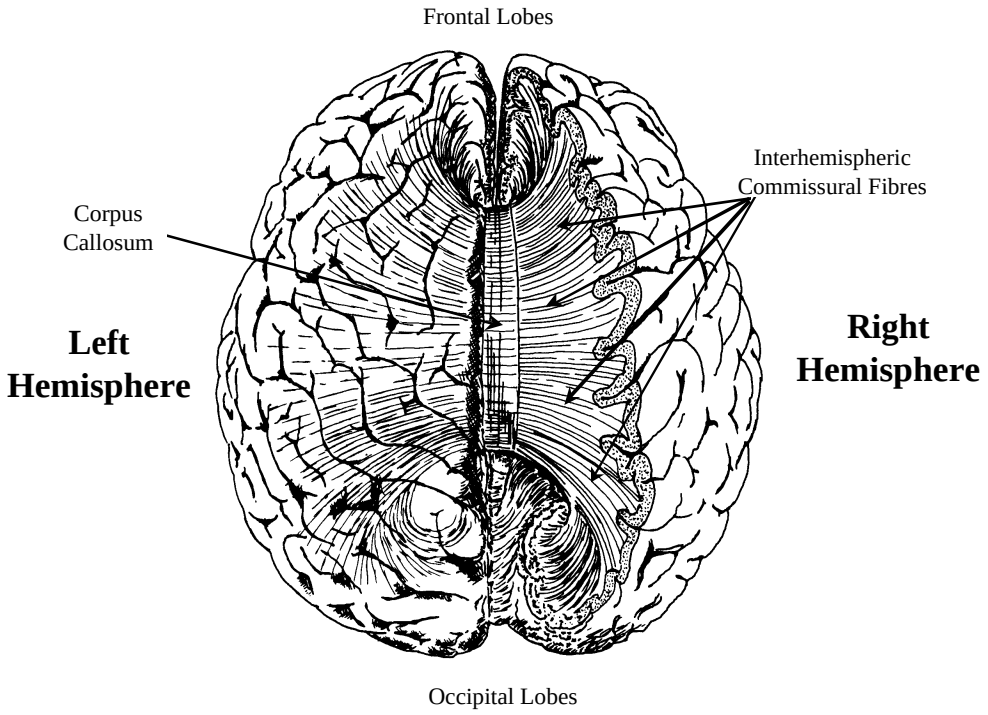
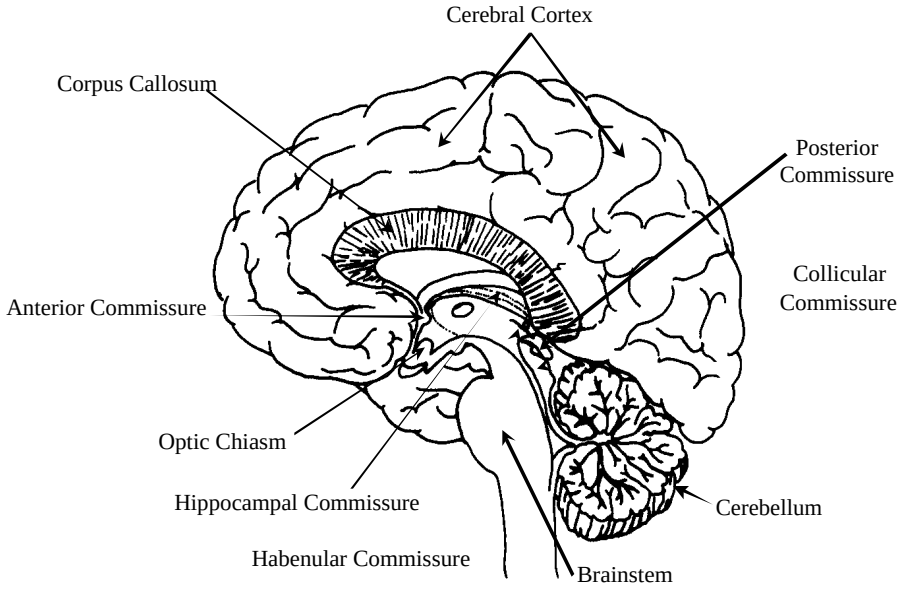


Figure 1b. The Corpus Callosum, Anterior Commissure and other Commissures of the brain - cross sectional view. The fibres crossing through the corpus callosum connect most cortical areas in one hemisphere with the same areas in the opposite hemisphere. Whereas the Anterior Commissure connects areas in the anterior, inferior and medial temporal lobes in one hemisphere with the same areas in the opposite hemisphere. A number of other minor commissures connecting the right and left hemispheres can also be seen.



Model of Learning based upon Gestalt and Logic Modes of Learning:

In essence, the brain has two different, yet complementary processes by which it learns, or looked at another way, by which it organises and consolidates or "packages" sensory input and

experience for storage in memory. One mode is based on global processing of all data simultaneously using inductive reasoning to perceive the pattern and form of the whole, and is inherently irrational and intuitive. This is called Gestalt processing from the German word "Gestalt" meaning pattern or form. The other mode is based on logical, linear, sequential processing using deductive reasoning to analyse the relationship of the pieces of the whole, and is inherently rational and analytical. (See note 1). These two powerful modes of mental processing perfectly complement each other, which is why "whole brain" thinking is always preferable to "half brain" thinking.

In the popular Right Brain/Left Brain model the Gestalt functions are located in the Right cerebral cortex and the Logic functions are located in the left cerebral cortex. While Gestalt functions do appear to predominate in one cerebral hemisphere and Logic functions in the other, the right brain/left brain model over simplifies the complexity of the many cortical subsystems, many of which are located in both cerebral hemispheres. The Right brain/Left brain model also totally ignores the many subcortical subsystems involved in learning even simple, largely Gestalt tasks like facial memory, or largely Logic tasks like counting. Even these simple Gestalt and Logic functions involve components in various brain areas, both cortical and subcortical, many of which are located in one or both sides of the brain. For these reasons throughout this article we will refer to Gestalt and Logic functions, not to Right and Left Brains or Right and Left Brain functions.

In spite of the fact that Gestalt and Logic functions are not simply localised in the right or left cerebral hemisphere it does appear that ***each type of brain function or process has a cerebral"lead" function which is either predominantly Gestalt or Logic in nature.***

To perform a specific mental task requires the activation of specific Gestalt and/or Logic functions by conscious intent. The conscious mind in a sense, "tells" or "directs" the sub-conscious processing centres to perform the intended process. Once the conscious intent has been entered on the "biocomputer" of the subconscious mind, the subconscious processing centres then "decide "how best to accomplish our conscious intent.

The subconscious mind appears to work by the axiom, "perform the function in the most efficient way possible, using the most direct processing available". When the nature of the intended task is predominantly Gestalt, such as what does your sister's face look like, the subconscious mind will automatically route the processing to the Gestalt "lead" function involved with facial memory. These lead functions then act as a "point of entry" into the subsystem or module of functions integrating the subconscious cortical and subcortical functions required to automatically do the task "requested" by the conscious mind. (See Figure 1, next page)

The subconscious mind functions much like water running down a hill: it will always take the shortest, most direct route available. Unimpeded, water will always run straight down the hill, but if any part of that pathway is blocked, it will again seek the next most direct route down the hill. If that pathway is also blocked, it will again seek the next most direct route, etc. Each time the pathway is blocked, the pathway becomes longer and less efficient at getting the water down the hill.

GESTALT & LOGIC TOWER ANALOGY

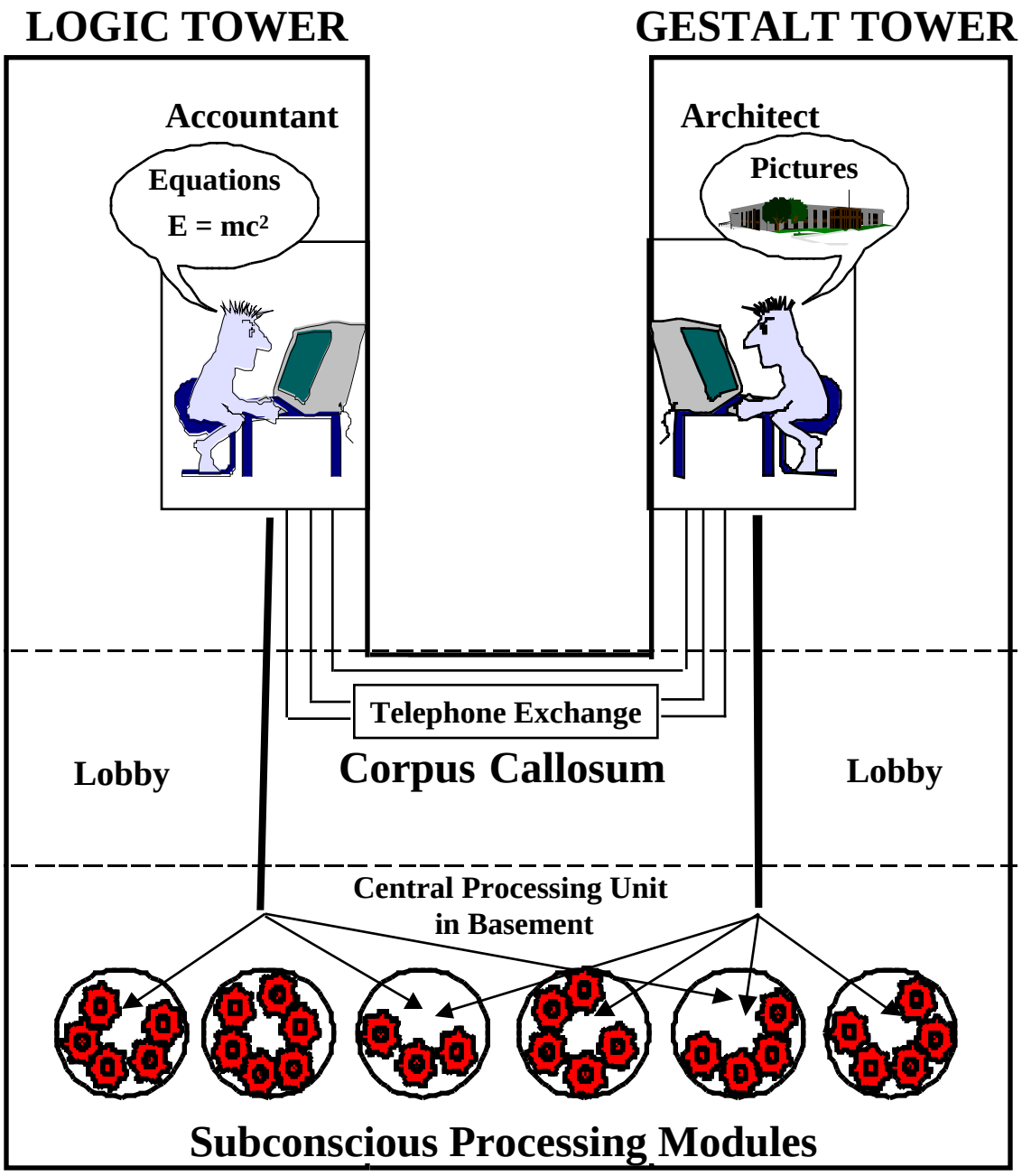


Figure 2. Gestalt and Logic Towers Analogy. While the Logic and Gestalt lead functions allow you to perform conscious tasks, (like the accountant and architect), it is largely the subconscious modules that do the actual processing. For the Logic and Gestalt lead functions to work together requires access to the interhemispheric fibres crossing the corpus callosum.

The same is true of processing in the subconscious mind. If all functions are equally accessible, the brain will always choose the simplest, most direct functions to do the processing required. However, there are many ways of performing all mental tasks and the subconscious mind will just choose the next most efficient route for processing if the most direct function is not available/accessible for whatever reason. If the next most efficient pathway is also "blocked", the brain will then reroute the processing to other functions that are accessible, even if these functions are far less efficient in processing that information.

If many brain functions are not accessible, the processing path may become very long and inefficient, creating difficulties in doing tasks dependent upon these processes. Each time the processing path becomes longer and less efficient, the level of "stress" encountered using that pathway increases. When the level of "stress" reaches a high enough level, we may opt out of situations that require us to perform these functions altogether. The more complex learning tasks like reading and spelling require access not only to specific Gestalt and Logic lead functions in both hemispheres, but the integration and simultaneous processing of information at all levels in the brain.

It must be **emphatically** stated here that both hemisphere participate all the time at many levels in the "various thought processes." **The way we think is a result of the degree of integration of the two hemispheres** with each hemisphere contributing its own special capacities to all cognitive activities. The contrasting yet complementary contributions of each hemisphere is clearly demonstrated during complex mental activities such as reading as illustrated in the following quote from Levy: "When a person reads a story, the right hemisphere may play a special role in decoding visual information, maintaining an integrated story structure, appreciate humour and emotional content, deriving meaning from past associations, and understanding metaphor. At the same time, the left hemisphere plays a special role in understanding syntax, translating written words into their phonetic representations and deriving meaning from complex relationships among word concepts and syntax." (1)

Although there is no activity in which only one hemisphere is involved or to which one hemisphere makes the only contribution, functions predominantly in one cerebral hemisphere may be all that are required for many simple cognitive tasks. There are both psychological and physiological evidence that the relative degree of activation of functions in the two hemispheres varies depending upon the nature of the task being performed. When doing simple arithmetic tasks such as counting or adding 1 + 1, the Logic functions will be activated with little Gestalt activity required. A predominantly Gestalt task, on the other, such as matching patterns, will require little Logic involvement. The more complex the learning task becomes, the greater the degree of activation and integration of functions in both hemispheres that is required.

The more complex learning tasks like reading and spelling require access not only to functions in both hemispheres, but the integration and simultaneous processing of information in both hemispheres. Therefore, if you can access all brain functions in both cerebral hemispheres with equal facility and can integrate all these functions well, you will probably find learning easy!

However, if for any reason you can not access certain brain functions or have difficulty integrating the functions accessed, you may well have difficulty performing tasks dependent upon or involving those specific brain functions. From our perspective here at Melbourne Applied Physiology, **all specific learning difficulties result from this lack of access to specific functions or the inability to effectively integrate these functions**. Depending upon how well a person can access certain Gestalt and/or Logic functions, he will demonstrate one of the patterns of specific learning difficulties briefly discussed below.

Major Patterns of Specific Learning Difficulties Based on How Well Logic and Gestalt Functions are Accessed are:

The most commonly observed specific learning difficulty is Gestalt dominance in processing information or Attention Deficit Disorder (A.D.D.). People with this pattern of learning

dysfunction have good access to most Gestalt functions, but only poor access to Logic functions, with Gestalt processing the predominate mode used for performing all tasks. Because of this Gestalt dominance in processing information, the normal balance provided by complementary Logic functions is largely absent. These people, therefore, often display the following behavioural symptoms:

Gestalt Dominance in Mental Processing (Attention Deficit Disorder):

- tendency to be impulsive.
- little appreciation of the connection between "cause" and "effect": I want to do X so I do it, never thinking, "What will happen if I do!"
- difficulty budgeting time: Because of this and difficulty concentrating, projects are often left incomplete and organisational skills are poor.
- difficulty concentrating: "Concentration" is merely paying attention over time. If there is no "sense of Time", attention can not be paid over it?
- difficulty spelling: Generally spelling is phonetic by putting letters together until it "sounds" like the word.
- difficulty with mathematics: Difficulty remembering times tables and/or understanding
- mathematical concepts.
- reading may be fluent, but there is often poor comprehension of what was read: Decoding of symbols (Gestalt) may be accessible, but there is difficulty assigning meaning to the words/symbols that were decoded (Logic).
- often well co-ordinated or even gifted athletically. Remember the Gestalt functions control body awareness and orientation in space.

It is precisely because of the above symptoms that people displaying Gestalt-dominant processing are found to be "attention deficit". Attention Deficit Disorder is assessed by having a person perform a series of sequential tasks, any one of which the person can do easily. However, people suffering from A.D.D. will not be able to complete the series of tasks, not because they can not perform them, but rather, because they lose concentration or are easily distracted.

Much less common than Gestalt dominance is Logic dominance in decision-making processing. People who access their Gestalt functions poorly, but have good access to Logic functions are the "true dyslexics" by standard psychological definition. That is, they display the following four behavioural symptoms:

Logic Dominance in Mental Processing (Dyslexia):

- can not spell or do so entirely phonetically by putting letters together to "sound" like the
- word is said.
- have great difficulty reading: Usually stumble over words, mis-read words, or just can not "sound" words out. However, comprehension of what was read is often excellent.
- display dysrhythmia, an inability to clap or tap a tune.
- are physically uncoordinated or "clumsy".

In addition, these people are usually good at mathematics at least to the level of algebra, display good concentration, and follow sequential directions well. However, they may have to be taught things that other people learn unconsciously.

The next most common type of learning difficulty after Attention Deficit Disorder or Gestalt Dominance is poor or limited access to both Gestalt and Logic functions. This pattern is usually associated with a great deal of confusion in cerebral processing and creates the greatest learning difficulties. If a person has good access to either Gestalt or Logic, but poor access to the opposite side functions, he can at least compensate with the functions he does access well!

However, if their are major deficits in both Gestalt and Logic functions, then the ability of the brain to compensate for these deficits is extremely limited. The following behavioural symptoms result from this pattern of access:

Limited Access to both Gestalt and Logic Functions (Real Problems):

- language development often extremely delayed for age: For instance, an eight year old
- child that only recognises 3 letters and 2 numbers.
- reading very delayed for age: Often difficulty even recognising words, or word recognition a real struggle.
- spelling very delayed for age: Often can not spell words with more than 3 or 4 letters.
- difficulty understanding numbers, even basic arithmetic: Often have difficulty with
- learning to count, concepts of adding and subtraction, knowing the days of the week, etc.
- no concentration or focus: Appear away with the "fairies".
- person appears confused/lazy or just plain "slow mentally": Often fairly apathetic and
- lethargic with no zest for life.

We generally only see these people as children in early adolescence. Because of the extreme nature of their learning dysfunctions these people have normally been dismal failures in school and have departed the academic scene by their early teenage years.

The least common pattern of learning difficulty are people who have good access to both Gestalt and Logic functions, but they can only "integrate" these functions poorly if at all. This lack of integration of Gestalt and Logic functions often limits the use of the functions that they can access giving them learning dysfunctions similar to people having poor access to one or the other hemispheres.

Poor Integration of Gestalt and Logic Functions:

The most common behavioural symptoms are:

- reading very difficult: Often so stressful to read that it can only be done for a few minutes at a time, or is avoided altogether.
- spelling is totally phonetic: words spelled like they sound.
- difficulty with higher mathematics (eg algebra) even though arithmetic may have been
- perfect.

For these people, school is often an extremely frustrating experience. They can often perform well all tasks except those requiring good integrated function. Since integration of Gestalt and Logic functions are required for reading and spelling, but integrated functions are very stressful for these people to perform, these essential academic tasks may often be avoided.

The True Nature of Specific Learning Difficulties:

The philosophy at Melbourne Applied Physiology is that all learning difficulties result from the degree of access each person has to specific brain functions and how well these functions can be integrated. If a person can access all brain functions in both cerebral hemispheres with equal facility and can integrate all these functions, he performs well in all areas of learning. However, if for any reason he can not access certain specific brain functions, he will have difficulty performing tasks dependent upon or involving those specific brain functions.

Indeed, standard psychological testing to evaluate specific learning problems rely on determining which types of cerebral functions and processes can be accessed, and how well these functions are accessed. Standardised intelligence tests such as the Wechsler Intelligence Scale Test are a

carefully devised series of tasks which are divided into two groups: Verbal subtests and Performance subtests. The Verbal subtests are tasks which require access to predominantly Logic functions. Some of the Verbal subtests require access to only a few Logic functions, while others require access to both Logic and Gestalt functions at the same time, but with the "lead" functions contributed by the Logic brain. Likewise, some of the Performance subtests are tasks which require access to only Gestalt functions, while others require integrated functions with a Gestalt "lead."

The score on each subtest depends upon how well a person can access the specific functions required to perform that subtest. Subtests that a person scores poorly on indicate which types of functions he has difficulty accessing. Difficulty accessing specific functions has been correlated with poor performance in certain academic areas.

Behavioural Aspects of Limited Access to Cerebral Functions and/or Poor Integration of these Functions & the Stress-Avoidance Cycle:

An appreciation of some of the behaviours associated with learning difficulties may be useful at this point. How do people's behaviour reflect their underlying ability to participate in this natural process of learning? In our clinical practice we are told about and see the same types of behaviours from people (especially children) who come to us for treatment of specific learning difficulties. Again and again we see the same behaviours ticked on the Behavioural Evaluation Form filled out for each client when people have certain learning dysfunctions. Why might this be?

Lack of access to specific cerebral functions will almost always have a discernible behavioural corollary. The nature of the functions accessed, or not accessed, determine to a large degree how a person behaves. A child that is Gestalt dominant will often be perceived as "emotionally immature" because emotional maturity is essentially the ability to modulate and control the expression of emotions based on a logical analysis of circumstances. A well integrated person with good access to all cerebral functions may "feel" angry (largely a Gestalt experience), but make the rational judgement that "now" is not the appropriate time to express that anger. A Gestalt dominant person, on the other hand, will experience the anger and tend to act on these feelings with little logical consideration of the consequences.

It is our philosophy that people's behaviour reflects the degree of access and integration of their cerebral functions. Poor access to, or integration of, specific brain functions will result in difficulty performing tasks dependent upon these brain functions. Difficulty performing these tasks will almost always generate "stress" when attempting to do these tasks, often resulting in "avoidance behaviours." The extent of the "avoidance behaviours" usually relates to the degree of "stress" generated when attempting to access and integrate the relevant functions.

What is often not appreciated is that people's behaviour tells the truth, if you understand what is being said! When a child says, "I hate Reading, Mathematics, English, or_____(fill in the blank)", what that person is actually saying is, "I can not access the brain functions I need to do that task easily!" The only reason anyone "hates" doing anything that is enjoyable for most other people is that he finds that specific task difficult to perform. If a person can read well and easily, he doesn't avoid reading, but rather seeks it out because there is just so much to learn and enjoy in books. If, on the other hand, reading is a very demanding and stressful task, people soon develop avoidance mechanisms, for instance labelling reading as "boring." Who wants to do something that is "BORING!"

Unfortunately, these avoidance behaviours are often mis-interpreted as "just not doing what you are told" or "misbehaviour" plain and simple. The response to these "avoidance behaviours" may be to tell the person to just stop misbehaving and "pick up your game!" This only compounds the "stress" of attempting to do these tasks, usually leading to further avoidance behaviours, and exaggerated misbehaviour. Part of what exaggerates the misbehaviour is simply the frustration and anger of NOT being able to perform the assigned task, even when great effort is expended. Imagine how you would feel if you have struggled through your reading,

mathematics, English etc. assignments, putting in the best effort you are capable of, only to be told, "Well you're just going to have to try harder!"

From our experience, many of the people having the greatest difficulty with "learning" are often innately very clever. They just can not access specific brain functions they need to perform certain tasks that they are required to do. When you talk with these people and listen to the questions that they ask, they are often clearly clever, intelligent people. If a clearly clever, intelligent person does not read well or spell well, or has great difficulty understanding and doing even simple mathematics, a reasonable assumption is that person just isn't "concentrating", or "paying attention" or "trying hard enough." Surely, if a clever, intelligent person was "concentrating, paying attention, and trying hard enough", then he would be successful at these rather pedestrian tasks accomplished with ease by even their less clever peers! What is over-looked is that these clever, intelligent people may indeed be clever and intelligent, but unable to access the relevant brain function when needed, or only able to do so under duress.

Perhaps an analogy here will help demonstrate the above point. If I say to most boys or men, "Do you know how to hammer a nail?", most would answer "Yes." "Will you hammer a nail for me?" "Sure, just give me a hammer!" However, if their hands were tied to their legs, they may still answer "yes" to the question, "Do you know how to hammer a nail?", because they do know how; but, they would be unable to do so when asked. If you just ignored their lack of access to hand function (because it is tied up) and said "Come on now, hammer that nail!", they may become frustrated and angry because they **could** hammer that nail if only they could access the function of their tied-up hands.

The difference between this analogy and the above lack of access to brain functions is that they would clearly understand their inability to hammer the nail, and they would likely state, "If you'll just untie my hands, I'll gladly do it for you," letting you know why they can't at this time do what is asked of them, also alleviating their frustration at not being able to do so.

However, with lack of access to specific brain functions, people can not (nor can those around them) understand why they can not perform certain tasks dependent upon the specific brain functions not accessed! The individual almost never knows consciously why he can't access these specific brain functions, and just gets" frustrated", which often leads to "anger" and that anger often leads to "inappropriate behaviour" and “avoidance” of the task they are asked to do (e.g. reading). This avoidance behaviour is often perceived as “misbehaviour” or simply “not doing what you’re told!” Lack of access to specific brain functions required to perform specific mental tasks, then often initiates what we call the Stress-Avoidance Cycle. (**See diagram on next page**)

All of us have a sense of our own innate intelligence. If you have a sense that you are intelligent but cannot perform simple tasks that any of your peers can master, you start feeling stupid, and find yourself constantly failing. And every time you fail you become more firmly entrenched in a downward spiral of loss of self-esteem and self-confidence which, of course, constitutes more stress - leading to more failure.

The opposite of the downward spiral is what happens when someone has and maintains integrated brain functions even under a degree of stress. They attempt a new task, maintain their integrated brain functions, and figure it out - success! Figuring it out, getting it right earns approval and “feels good”. And as success is rewarding you will look forward to the next challenge. If you once again maintain integrated brain function and are successful again: further reward. You become more an more confident of your ability to succeed building self-confidence. This results in a positive feedback cycle of success. **(See diagram of Success Cycle following page)**

Reference:1. Levy, J. 1985. Right brain, left brain: Fact and Fiction. May 1985, Psychology Today.

Figure 3. The Stress-Avoidance Cycle. Whenever there is lack of access to specific brain functions or the ability to integrate these functions this initiates the avoidance of tasks dependent on these brain functions. This is often misinterpreted as misbehaviour.

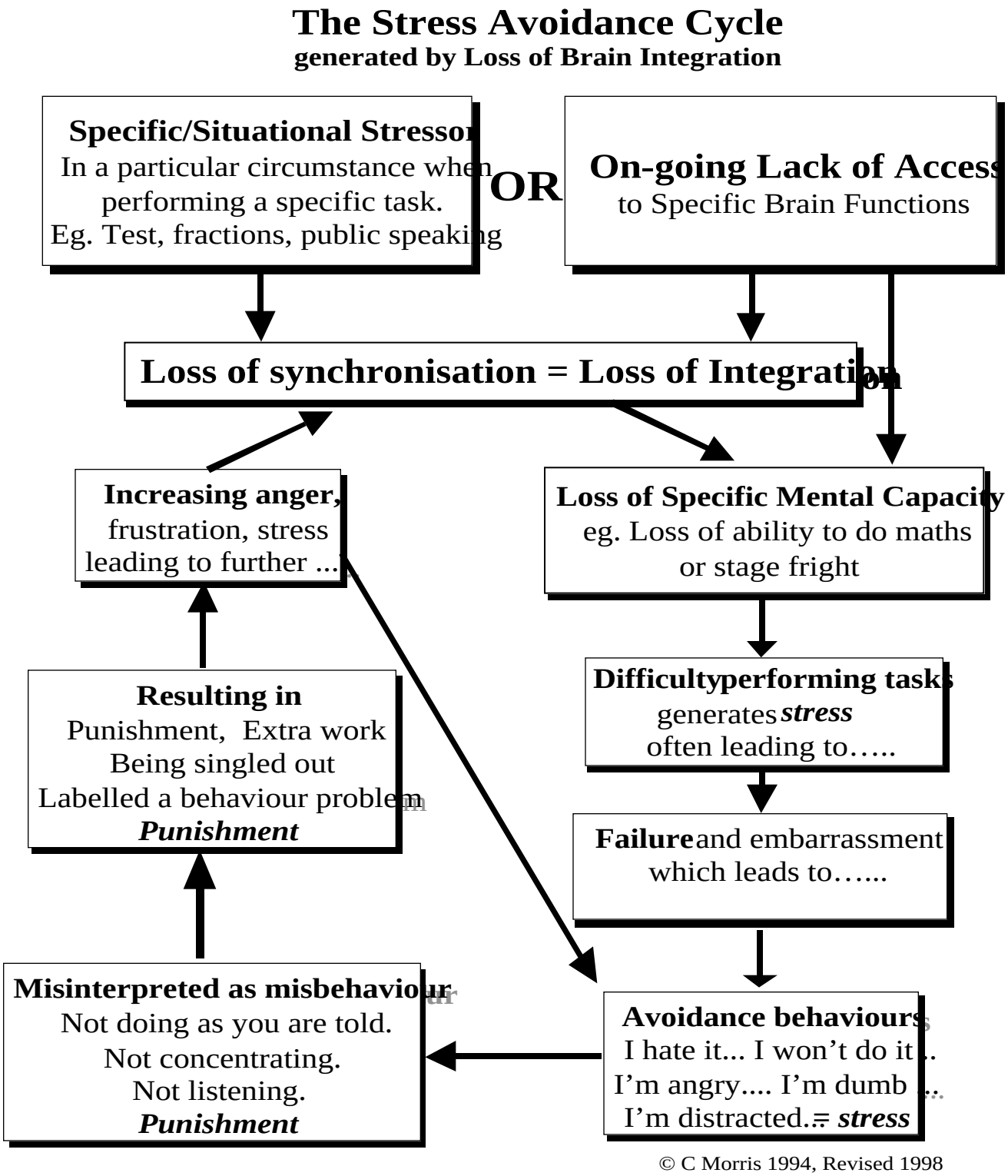


Figure 4. The Success Loop. Created by maintaining Brain Integration under Stress. When you can maintain your brain integration under stress you will be able to figure it out and receive the reward of being successful, which increases your ability to maintain your integration under even higher levels of stress.