

**NEOS**

Learning

**An introduction  
to Accelerated  
Learning**

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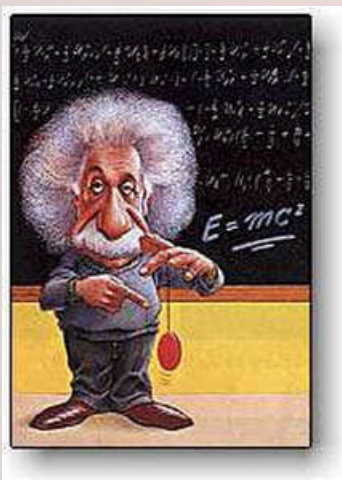
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## Introduction

Since our formation in 2002, **NEOS** have been trainers and consultants in a very wide range of subjects using the latest 'brain-based' learning techniques. These methodologies, also referred to as 'Accelerated Learning', are a series of techniques which, when combined effectively, maximise learning to ensure **greater course content**, in a **faster time period**, with **significantly reinforced memory** and an **enhanced ability to recall** the information than would be the case with conventional training. Our knowledge in this area, our development of new techniques and models, and our reputation, has led to us working with a number of successful organisations who want to be at the 'cutting edge' of training.

A fundamental part of the ethos is an obsession with the practical application of the learning to the daily roles of professional delegates – we train and advise for the implementation of ideas, concepts and techniques into people's jobs, not for mere academic interest or cerebral enhancement.

We are also able to offer design skills in quantifying the effectiveness of training so that the benefit to each business is transparent. In this era of direct financial accountability for training and education, this service is of considerable benefit to many organisations.



"Learning is the greatest game in life and the most fun.

All children are born believing this and will continue to believe this until we convince them that learning is very hard work and unpleasant.

Some kids never really learn this lesson and go through life believing that learning is fun and the only game worth playing.

We have a name for such people.  
We call them geniuses".

*Glenn Doman*

## Accelerated Learning involves ....

A stimulating learning environment and development of  
a passion for learning

*plus*

Information communicated using multiple senses to  
appeal to all sensory preferences

*plus*

Provision of time and designed activities to allow  
delegates to 'make sense' of the information using their  
unique combination of intelligence preferences

*plus*

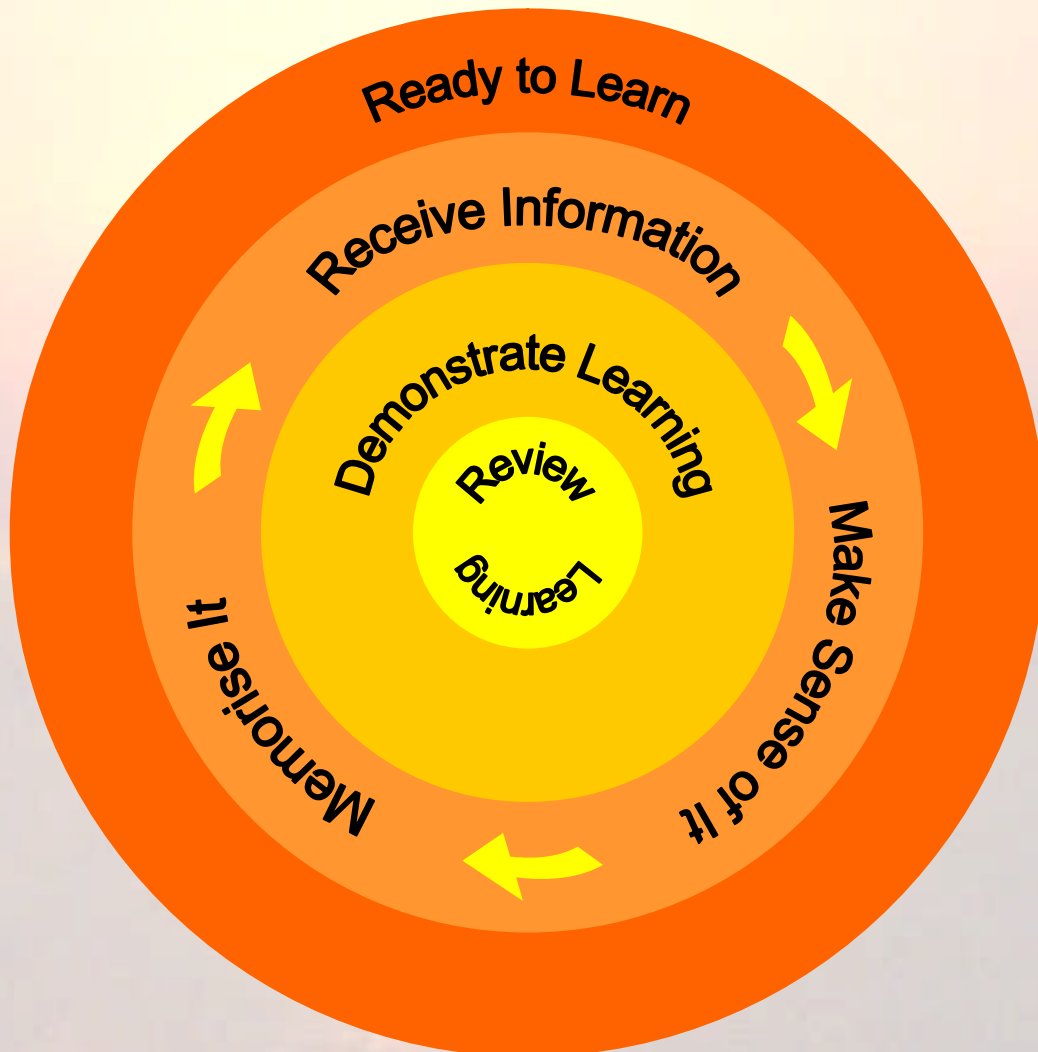
The use of 'memory enhancers' to ensure that the  
learning 'sticks' in the brain – like neurological velcro !

*plus*

Application of the learning to the lives, roles and jobs of  
delegates to ensure rapid implementation of the  
learning to their everyday activities

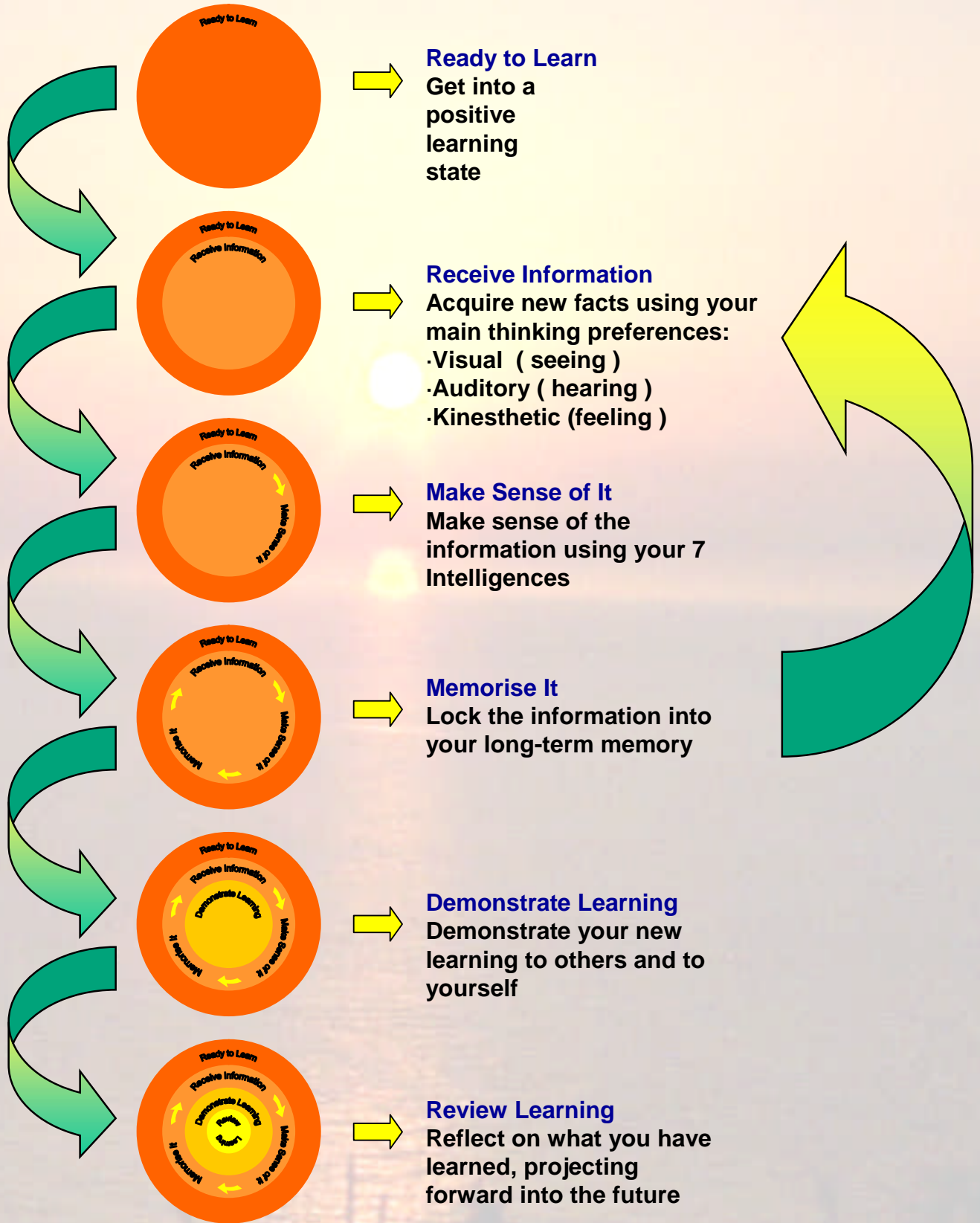
Which makes learning **FAST, EFFECTIVE,  
CREATIVE, ENJOYABLE & LONG LASTING**

# The **NEOS** 6 stages of Accelerated Learning

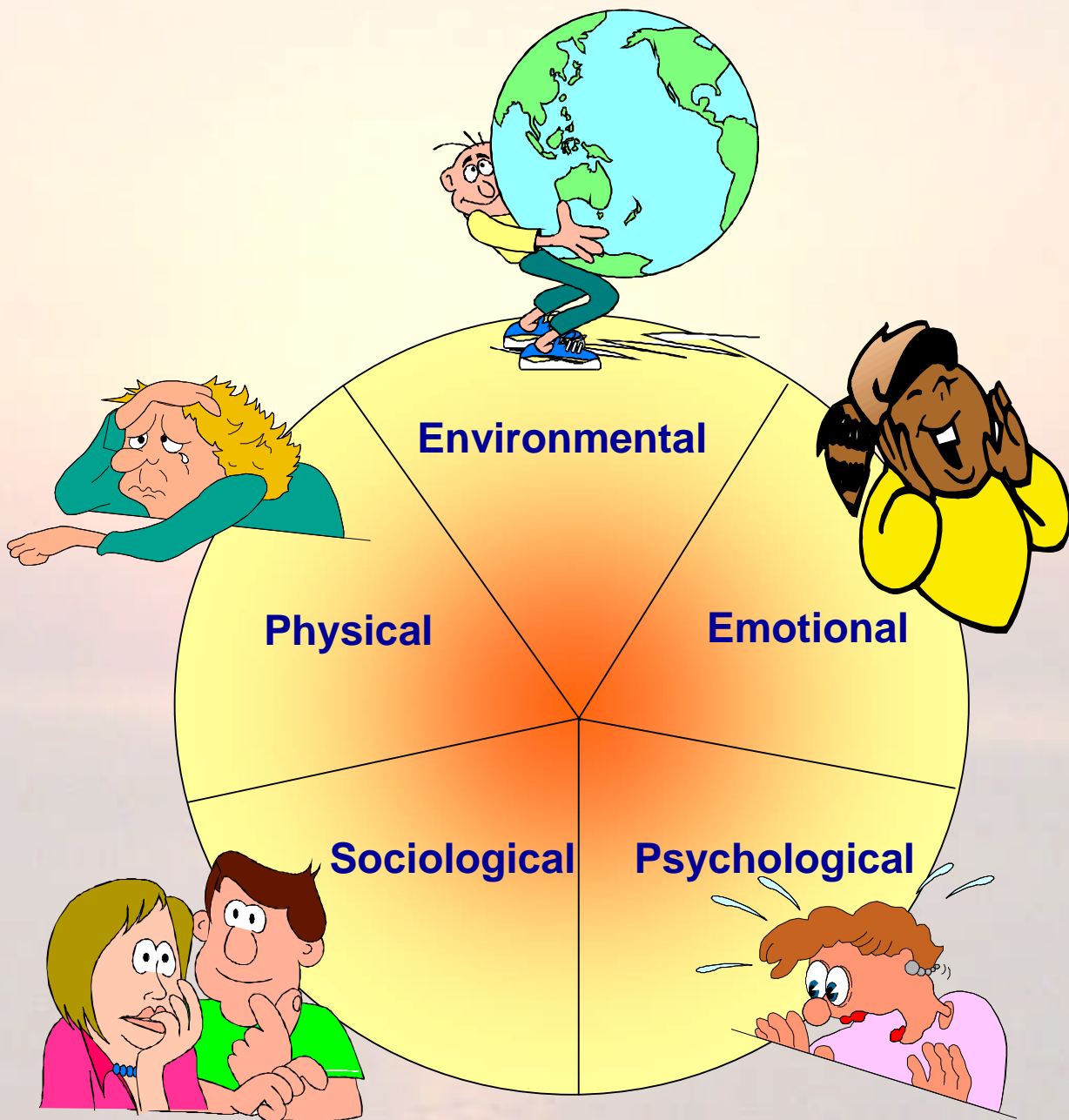


This model, unique to **NEOS learning**, is based on cutting edge university based research honed by many years of experience training at the very highest level. Research by Gardner, Rose, Lozenov, Greenhough, Fry, Horne, McGaugh, Mills, Bandura, Brophy, Csikszentmihalyi, Wicker, Lewin and several others are combined to create a sound yet pragmatic learning model.

## The 6 Key Elements

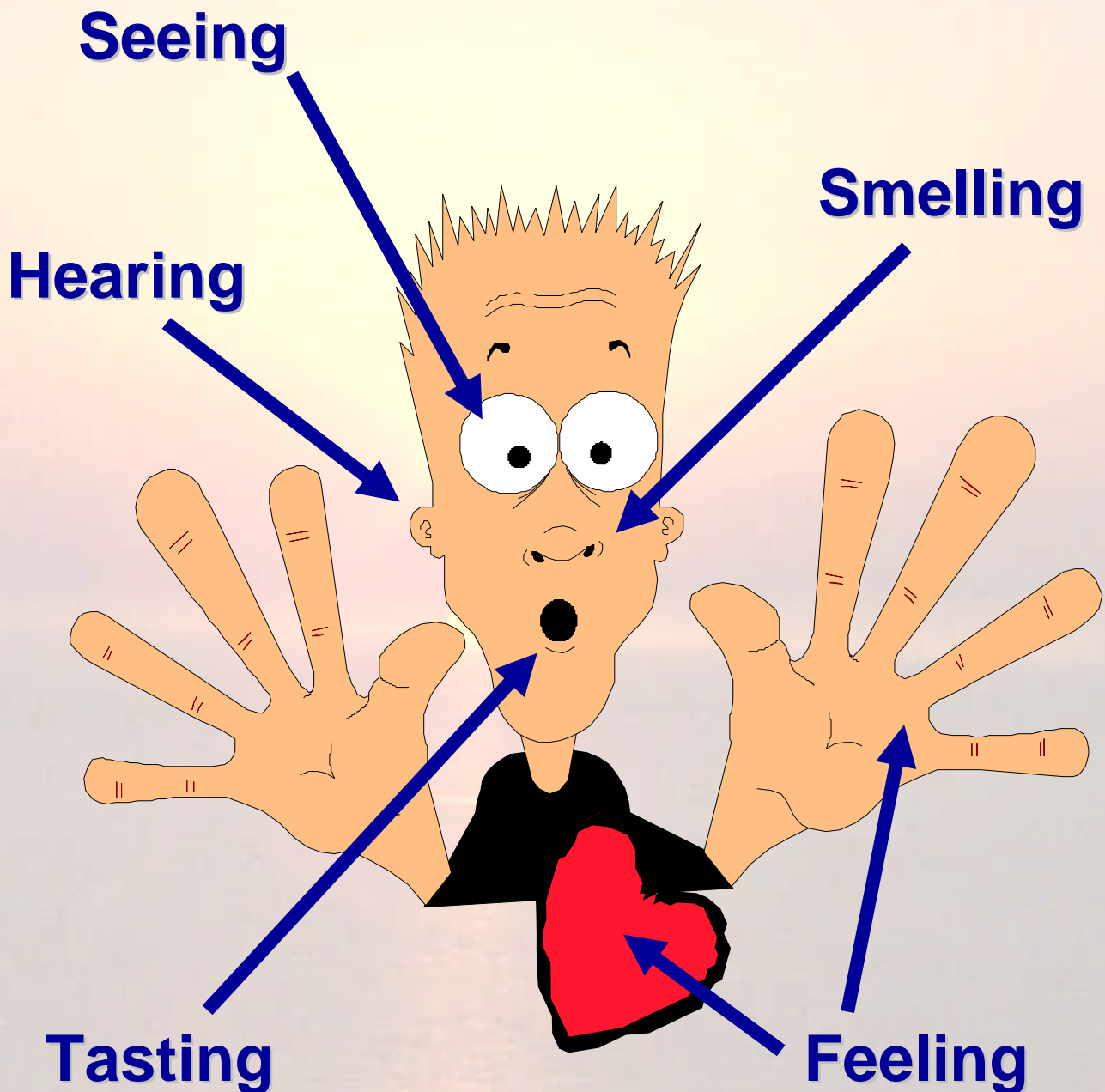


## Stage 1 – Ready to Learn



Effective learning starts prior to the commencement of any learning event. Delegates need sufficient information to help them become interested, curious and keen to learn before arriving at any venue. Once at the venue, the 5 key areas above must be considered to ensure that delegates remain unthreatened, energised and in the best physical and mental state to support learning. We have a vast array of techniques and processes to achieve this. Once it is achieved, the state must be maintained throughout the learning experience – as illustrated by this stage encompassing the others as the 'outer circle' in the **NEOS** model.

## Stage 2 – Receive Information



Stage 2 deals with how information is imparted to delegates. We all have a neurological structure as unique as our fingerprints, and as part of this unique structure, we all prefer to receive our information in a different combination of senses. Some people enjoy listening to new information, some find it easier if the information is in a strongly visual or diagrammatic format. By ensuring that any information is received in a multiple sensory manner delegates are able to consider the new learning in the way their brain works best rather than in a way stipulated by a trainer.

## Stage 3 – Make sense of it

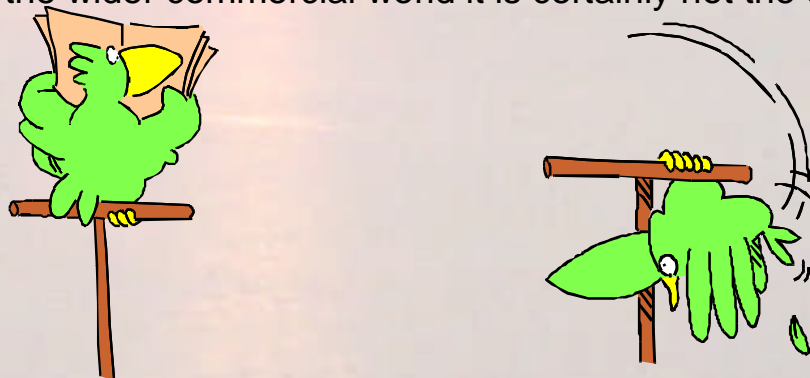
We know that as a human being you have the capacity to learn exceptionally well – you are currently organising bits of black ink (writing) into thoughts and concepts . With about 100,000,000,000 (100bn) brain cells, you have the capacity to perform exceedingly complicated neurological tasks to achieve your learning desires.

**But how can we maximise the effectiveness of our brain's ability ?**  
**Why do most of us use only a tiny fraction of its potential ?**  
**What are multiple intelligences ?**

Professor Howard Gardner of Harvard University has worked in the area of intelligence theory for many years. His pioneering multiple intelligence theories demonstrate that our unique brain pattern also generates preferences about how we 'process' or 'make sense' of information.

Each intelligence is of equal importance, and each of us use all of them. However, we usually prefer to use 2 or 3 of them more than the others. We also usually have 1 that we use significantly less than the others.

What is also important is to realise that IQ, business and academia tend to focus on only 2 of these. Academic success is one way of demonstrating intelligence but in the wider commercial world it is certainly not the only way.



Once learners have received new information they then need to make some sense of it. This is a key differential of Accelerated Learning to conventional historic learning methods, as Accelerated Learning gives access to the TYPE of intelligence we prefer to use. Some people need to **see** how they can use an idea (Visual/Spatial intelligence), others may prefer to **act out** new ideas, or **walk through** something or **take it apart** (Body/Physical intelligence). Some others need **time alone** to think it through (Intrapersonal intelligence) and others prefer to **discuss it** (Interpersonal intelligence). Each of us processes ideas differently, and we encourage this by designing exercises that allow all of the 7 Intelligences to be used.

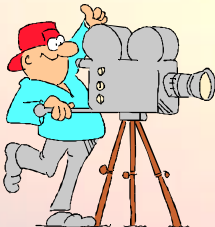
## Stage 3 – Make sense of it



**Linguistic Intelligence** - Gardner defined it as having a sensitivity to the meaning and order of words and to different functions of language. It concerns the manipulation of language for expression as exemplified by writers, barristers, politicians and negotiators.



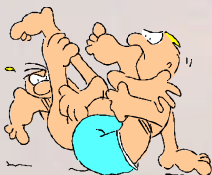
**Mathematical/Logical Intelligence** - is about numbers, sequence and abstract relationships. It is about connections, reasoning and consequences. It concerns analysis and logic, as exhibited by scientists, philosophers, strategists and economists.



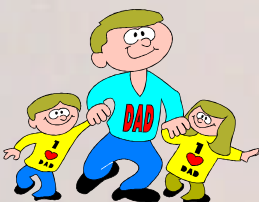
**Visual/Spatial Intelligence** - is about the ability to recreate visual images from memory, to be able to read graphs, charts, maps and diagrams with ease. It includes the ability to create images in your “mind’s eye”, as shown by architects, navigators, artists and photographers.



**Musical Intelligence** - the ability to create and identify complex patterns of sound, recalling pitches and tones, as demonstrated by musicians. This intelligence can also relate to other patterns – such as the seasons.



**Kinesthetic ( or Body/Physical ) Intelligence** - the ability to use either large motor or small motor muscle movements with care and precision in order to achieve a problem solving objective. This ‘hands on’ intelligence is used by surgeons, athletes, dancers, engineers and mechanics.



**Inter-personal Intelligence** - the ability to communicate well, to be empathetic, to recognise and distinguish between other people’s feelings, emotions, goals, motivations and intentions. . As utilised by sales persons, gifted trainers and parents!



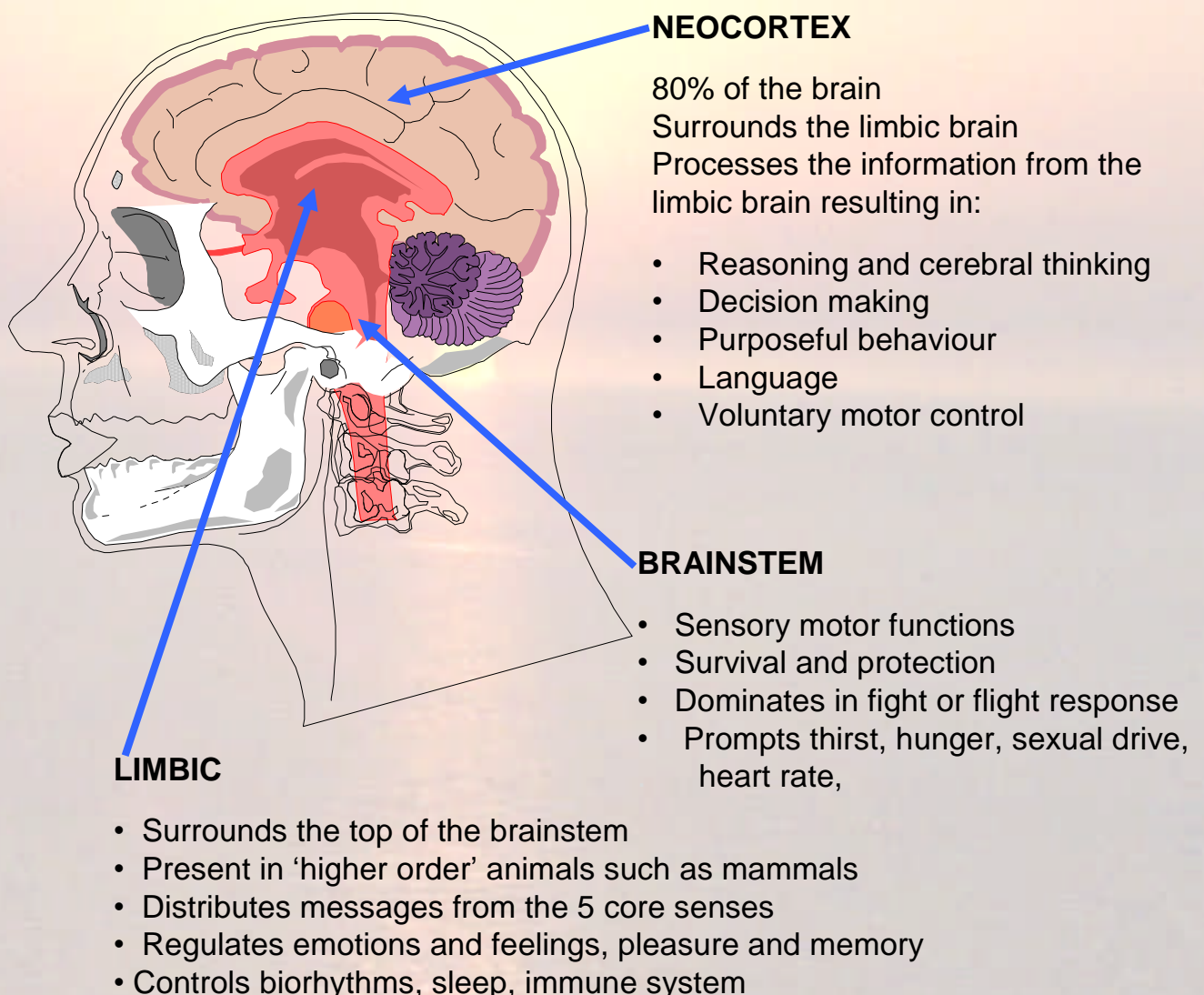
**Intra-personal Intelligence** - the ability create one’s own goals and plans, to be reflective and to understand yourself very well . To analyse one’s behaviour and motives as a guide to future action.

Professor Gardner has furthered this with 8, then 12 intelligences. For use in business, we find the original 7 intelligence model the most practical.

## Stage 4 – Memorise it

### You're so clever you have 3 brains !

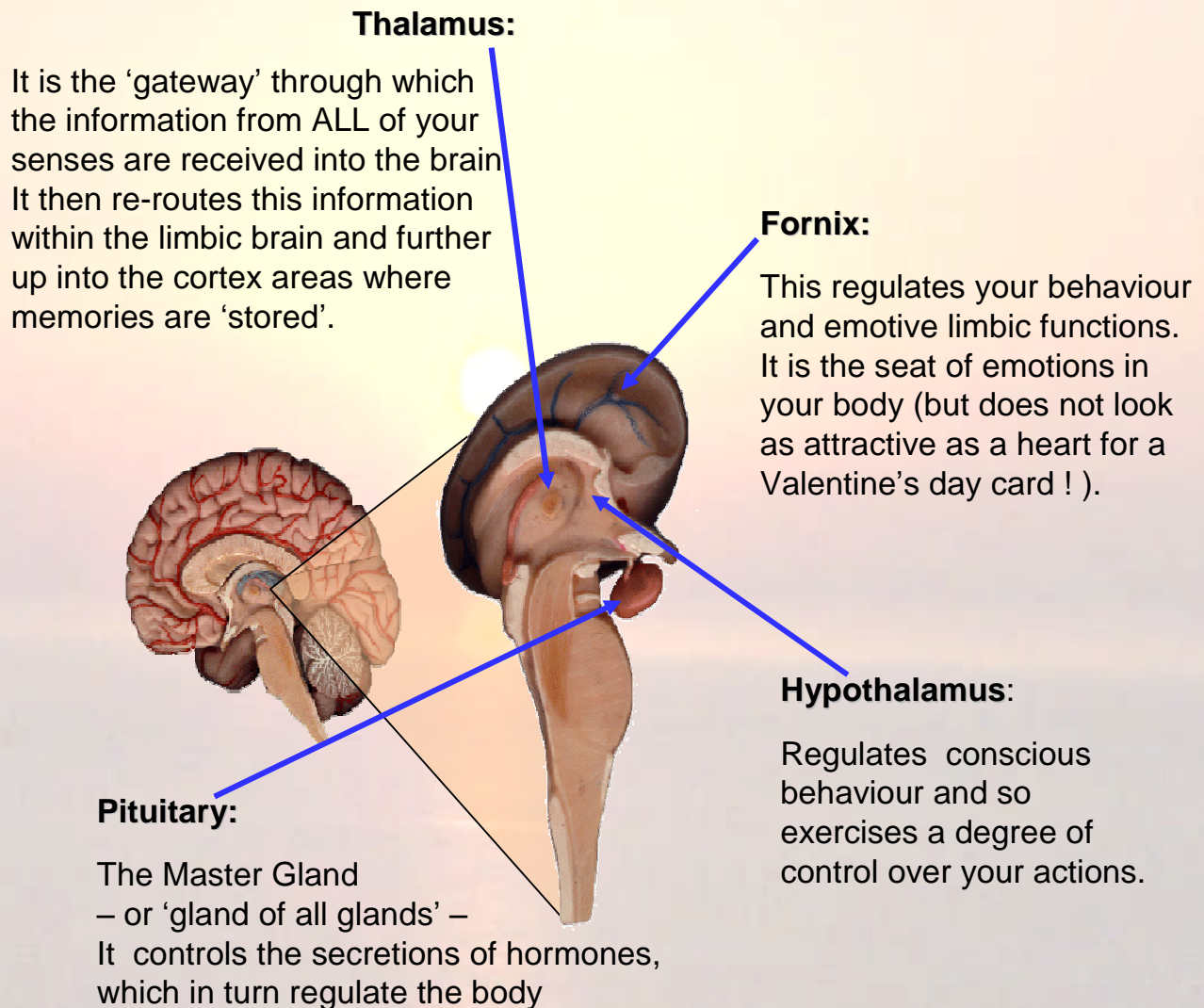
Dr Paul McLean's triune brain theories show that the management of memory in the neocortex is significantly re-inforced with an appropriate 'limbic trigger'. This can be anything that gives an emotional attachment to the learning such as enjoyment, novelty, fun. The compounding positive effect of endorphins resultant from positive emotions further enhance delegates ability to remember and recall information.



Triune brain theories – Dr Paul McLean

# Stage 4 – Memorise it

## Your Limbic System ( or limbic brain )



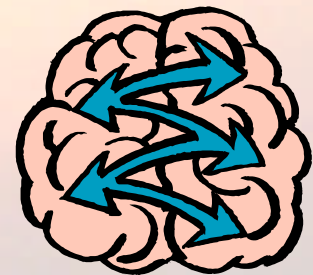
Your limbic brain plays a critical role in your ability to learn effectively. It is the part of the body which is the 'seat' of emotions – both positive and negative – love or happiness and aggression or fear. It also has an enormous influence on long term memory by influencing the chemical and electrical content of memory being coded for later recall.

Many traditional learning environments often fail to place sufficient emphasis on 'limbic learning enhancement' and create monotone, one dimensional, unemotional learning content and learning environments. Accelerated Learning seeks to work WITH the limbic brain to maximise its effectiveness in enhancing our ability to remember and recall.

## Stage 4 – Memorise it

The roots of memory are in the bio-chemical and electrical activity of the brain. The more we study the brain the more fascinated we become by the complexity of design and the intricacy of operation. Some early research made the assumption that the brain was a vast cerebral warehouse filled with neatly ordered files awaiting access. We now know this to be far from the truth – more like a vast labyrinth that changes every time something is experienced or remembered. **Steven Rose** (Open University) states that “...*memory is a dynamic property...*” With no specific place in the cortex, any memory is “...*simultaneously everywhere and nowhere in the brain...*” **Antonio Damasio** (Univ Iowa) states that memories are literally re-membered as the brain does not store whole files or polaroid pictures. Instead it puts together a wide variety of ‘memories’ from potentially hundreds of parts of the brain just to give one ‘recollection’

We use a variety of ‘**memory enhancers**’ in training. We design and include these so that the learning is readily recalled by delegates- albeit sometimes involuntarily - for example, delegates on many finance courses will subsequently be thinking of business cash flow every time they drive past a supermarket, or under a motorway bridge, or use their mobile phones - all due to the specific examples we use to illustrate certain points.



**The 5 most common memory enhancers are ‘LEARN’ :**

**L INK TO EXISTING KNOWLEDGE** – by adding learning to something already well known, an individual will ‘access’ the ‘new’ knowledge when they access the ‘old’ knowledge.

**E MOTIONAL LINK** – bio-chemically, the brain remembers things with emotional attachments (positive or negative) – we may remember the birth of a child or the death of a relative vividly despite the passage of time. This is one reason why training **MUST** be fun !

**A NCHORS** – items or thoughts unrelated to the memory but attached to it – such as tying a knot in a handkerchief to remind you of something. Many mnemonics are in this category – like ‘**LEARN**’ the mnemonic we use to teach trainers about memory enhancers !

**R EPETITION** – by completing a task several times the neurological pathway is re-inforced. This is not appropriate for all learning (and is dull !) but is the best enhancer for some learning.

**N OVELTY** – the brain ‘pays more attention’ to the unusual due to the stimulation of the ‘reticular activating system’. This is why training courses should continually introduce new and surprising elements to maximise memory retention.

## Stage 5 – Demonstrate learning

Learning needs to be embedded in our minds to be effective. It is not enough simply to attend a 'lecture'; the information must be acted upon to ensure retention – a problem most of had in earlier formal education.

There are three key elements to this process:

- Memory
- Context
- Personal demonstration of the learning

We have considered 'memory' and 'memory enhancement' in the past few pages.

We appreciate that when new learning is placed into a 'context' your memory and subsequent recall work much easier. If you remember your school education, the aspects you now recall, some years later, are probably those which you either enjoyed (limbic brain involvement) or those for which you saw a practical use – a 'context'. Other things that were neither of these, were probably jettisoned from your mind almost immediately after leaving the examination room. This helps us understand why the requirement to 'Demonstrate Learning' is important.

A memory needs to be exercised in order to be retained – a biologically incorrect metaphor is useful here – that of the muscle – if you exercise it you build it, but if you don't it weakens or fades – just like a memory.

The demonstration of learning is to ensure that we embed the learning, with its context in our memories by acting on it. Several unrelated pieces of research have demonstrated that an idea or skills used within 24 hours of seeing, hearing or doing it is more likely to be remembered in the future. Traditional 'classroom' style training processes seldom allow this part of learning and so it is of no surprise that the learning from such environments does not have longevity.

O'Keefe and Nadel state that contextual memory has almost unlimited capacity, forms quickly and is easily updated. It is surely common sense that this is something to be capitalised upon to ensure best practice adult training!

# Stage 6 - Review

Review is the last stage in Accelerated Learning. This is a vital process for your brain, memory and your emotions to reflect on what you have learnt.

During this stage your brain should go back and consider the ideas that you have explored. They should be reviewed in a sequential and precise way. This helps your brain to form the new 'pattern' and store it at a 'concept' level. This reinforces any memory enhancers that you may have put in place at stage 4 'Memorise it'.

In order for you to put this new concept into a place and context, which is important for easy recall later, the brain has to find a use for this new learning in the future. Simple visualisation of this or even just thinking how the learning can be used in the future will once again reinforce the later recall.

Once you have achieved the overall Accelerated Effect, you now have a new, positive, memory of learning, which you have demonstrated at stage 5 'Demonstrate learning', and which will provide a better, more positive emotional state to even further reinforce the memory through the limbic brain.



Being in the right emotional state is vital for this stage. It requires quiet and reflective thought, in a comfortable and relaxed state. Research by Bulgarian Professor Georgi Lozenov ( Univ. Sophia) has helped us to realise that music can play a vital role in achieving a strong memory effect. Gentle and soft music at around 60 beats per minute is very helpful in creating the relaxed state and assisting the review process to work. In particular Baroque music (especially Vivaldi or Bach) is most helpful – look for the phrase 'Largo'.

## More about music

Music could be reduced to numbers and mathematical formula. Pythagoras even deduced that the entire universe could be explained in the same numeric format as music. In later research it has been demonstrated that the atomic structures of the universe contain similar ratios and numbers as the harmonics of music. Music is, after all, a series of variable soundwaves or vibrations, which, today we can measure precisely.



Sounds are not alone in having resonance cycles – colours also have cycles, and the ‘wavelength’ is the basis on which our eyes see them. It has long been established that colours have an effect on our minds (eg blue / green are restful, orange / red are neurologically stimulating). As musical notes around ‘middle C’ resonate at the same frequencies as the major colours, there is evidence that they too have a similar effect.

**C#** (‘C sharp’ for the non-musical) resonates at 136.10 Hz – the same as blue/green/turquoise and has been shown to have a calming effect.

**G** resonates at 194.71 Hz – the same as orange / red and produces a dynamic energising effect on the body.



All things resonate, including our bodies (known as bio – oscillation) and when at rest an average human resonates at 8 cycles per second. This matches our Alpha brain wave pattern. What is really intriguing is that the globe also vibrates at 8 cycles per second.

Recent research shows interesting results concerning the effect of music:

- ◆ Molecular energy changes with intensity and pitch changes in music.
- ◆ Specific tones, scales and musical sequences have been found to energise muscles and minds
- ◆ Music changes metabolism, energy and blood pressure
- ◆ Music directly affects human emotions



Music that matches certain brain wave patterns will have a dynamic effect, by helping harmonise the brain waves to the beat of the music.

### Alpha Waves

*When we are quiet & relaxed  
8 – 12 cycles per second*

### Beta Waves

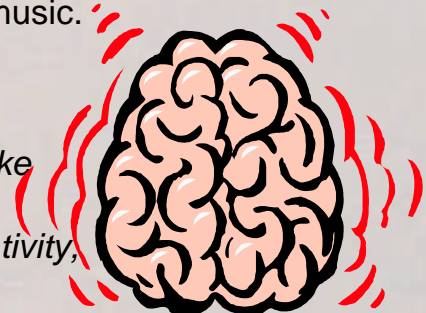
*When we are active and wide awake  
13 – 30 cycles per second*

### Theta Waves

*When we are in states of high creativity,  
‘blue sky thinking’ or daydreaming  
4 – 7 cycles per second*

### Delta Waves

*When we are asleep, unconscious, dreaming  
1 – 3 cycles per second*



# NEOS

Learning

**Feltham Cottage  
47 Albert Road  
Englefield Green  
Surrey  
TW20 0RQ  
United Kingdom**

**Tel : +44 (0) 1784 438870**

**Fax: +44 (0) 1784 473863**

**[Admin@neoslearning.com](mailto:Admin@neoslearning.com)**

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