new to accelerated learning

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'If your teacher uses Accelerated Learning you learn to use your brain. You learn by seeing, hearing and doing. I like the doing bits best, because I'm a doing person. I like body maths and role-play in science. It makes things sink into my brain much quicker than just listening to the teacher.' Arvind, age 10.

Nicola describes her books *'The ALPS Approach'* and *'The Thinking Child'* and their follow-up resource books as, "the books I wish I'd read when I first started teaching". It took her fourteen years in the classroom to develop the techniques that she describes in her work. Ideas and demonstrations of good practice by hundreds of practitioners are linked to the most recent brain research, which explains why these methods work.

Although it is hard to think of any way of learning that is not 'brain-based', there are some basic principles for teaching using brain-based techniques. Some are essential for all age groups, whereas others are particularly relevant for the older primary children.

The brain-based principles are:

- Create the right environment for learning
- Address children's physiological needs
- Build self-esteem in the child so that he or she *wants* to learn
- Work to help children develop what Daniel Goleman calls 'Emotional Intelligence'
- Add movement to learning and plan for regular brain breaks and Brain Gym®
- Use and teach mapping techniques.
- Use **VAK** to present learning in visual, auditory and kinesthetic form
- Be aware of the different forms of intelligence as you plan for children's learning
- Use rhythm, rhyme and music to .to enrich learning
- Use motivation systems such as **RAP** (Recognition, Affirmation and Praise) or **The Three A's** (Acknowledgement, Approval and Affirmation)

- Minimise stress and teach relaxation techniques
- Teach children to be metacognitive – to understand *how* they learn
- Develop the **New 3Rs** - Resourcefulness, Resilience and Responsibility
- Set clear and ambitious targets for groups and individuals

Nicola's books explain how to do all these things in detail, but if you want to find out more, click on the hyperlinks above. There are no hard and fast rules about how to begin to work using brain-based techniques. Simply try out aspects that appeal to you, and gradually work with colleagues to develop systems that work in your individual circumstances.

To read what children say about learning using accelerated learning, click here.

about the brain

Home 

'When it comes to building the human brain, nature supplies the construction materials and nurture serves as the architect that puts them together.' Ronald Kotulak[i]

There has always been an aura of mystery about the inner workings of the brain. Over the years, experts have developed numerous theories about the nature of intelligence and its relationship with two powerful and sometimes conflicting forces: nurture and nature. Recently, researchers have made more progress than ever before, and the mysteries of intelligence have begun to unravel. For instance, scientists have now managed to count the numbers of brain cells within specific areas of the brain. Even more importantly, they have calculated the absolutely phenomenal number of interconnections that are made amongst these cells as they communicate with one another. In fact, scientists now have technology that allows them to look deep inside the living, functioning brain. This enables them to directly observe electro-chemical activity at the lowest levels, as thoughts and emotions are developed and processed. As the mysteries of the brain are unravelling, many long-held theories are being disproved and new ones developed.

What is becoming increasingly clear is that the first few years of life are the most critical in terms of physical brain development. While the long-term interaction between nature and nurture determines the ultimate outcome, which is measurable in many different ways, the most significant period for the actual *wiring* of the brain is during the first few years of life. Typically, this process is nearly complete by the age of twelve. We now also know that there are various windows of opportunity during which the physical structures supporting certain essential capabilities, such as language, hearing, and sight, are laid down. Although the majority of these windows of opportunity occur between birth and the age of three or four, nature gives a child's brain a second chance between the ages of about four and twelve. This

means that an enormous responsibility lies in the hands of parents and educators to ensure that a child's brain develops to its fullest potential.

At the micro level, the human brain consists of about one hundred billion nerve cells, called *neurons.* These neurons can be thought of as very simple data processors, which work together to solve a particular problem as it is presented to the brain. Whilst *individual neurons* are far less capable than even a rickety old computer from decades ago, the human brain is still able to easily perform tasks that the largest, most expensive computers today find impossible to accomplish. Some everyday examples of these tasks include understanding spoken human language, identifying objects by sight, sound, smell, touch, and taste, and writing and understanding literature. Other examples are the ability to feel and respond to emotions, and to physically express these emotions through poetry, music, and art.

The magic behind the brain's power to handle these and other complex tasks is that the billions of neurons work together in concert, attacking problems in a massively parallel effort, by breaking them up into many thousands or millions of smaller pieces and then working on all those pieces at the same time. In contrast, computer processors today typically attack problems sequentially, one piece at a time, and accumulate the results until all of the pieces have been resolved. For the types of tasks described above, the computer's method is far less efficient than the brain's. In other words, the real power of the human brain lies in its ability to orchestrate the activities of billions of individual neurons working together, and the human brain can be likened to a symphony conductor.

Fascinating Fact: Individual neurons operate at speeds measured only in the tens or hundreds of cycles per second, which are called Hertz. By contrast, 1970s-era processors operated at several million Hertz, whilst the latest members of Intel Corporation's Pentium family of processors operate at several billion Hertz. Yet the human brain can still perform functions that are impossible for the most sophisticated computer – because it can orchestrate billions of neurons to work simultaneously on one task.

Because the role of neurons is to process and then communicate vast amounts of information amongst themselves, they require a physical means to transmit and receive data to and from the other neurons. To support this communication, neurons develop *dendrites* for transmitting information and *axons* for receiving information from other neurons. As patterns of thought are first initiated and subsequently repeated, the participating neurons continually process and communicate. In doing so, they build stronger and more direct dendrite-to-axon pathways or connections – called *synapses* - to the other neurons that are participating in the task. In other words, with repeated stimulation, these connections become ever stronger and more established, and the brain has in effect 'learned' how to solve that particular problem. At this point, the brain is ready to undertake further learning. Interestingly, those neurons that do not generate synapses quite literally die off, so the old saying 'use it or lose it' could not be more true.

At the macro level, the brain can be thought of in three parts: the *brain stem*, the *limbic system* and the *cerebral cortex.* These parts of the brain are divided again into specific areas, each with an individual and complex role to play. Some areas process information gleaned from the senses, whilst others process different aspects of our emotional responses. Some are responsible for laying down certain types of memory, whilst others help us to 'read' cues from other people and make appropriate emotional and physical responses.

In order to make sense of the world, however, these individual, specialized areas of the brain must be able to communicate effectively with each other. In other words, the brain operates similarly at the macro/regional level as it does at the micro/neural level, relying on efficient communication amongst the regions to quickly resolve a task. To illustrate this point, all of us have at one time or another used our recollections of certain sights, sounds or smells to help us locate a specific, long forgotten memory. Perhaps the smell of a particular curry dish, for example, brings back memories of a joyous family gathering years ago, which celebrated some remarkable academic achievement. You remember how happy and proud you felt, wishing that night would never end.

In locating this memory, your brain has used the information gathered by the olfactory nerves in the nose to match a unique pattern that it has stored identifying the smell of the curry dish. The patterns of other smells may have matched to one extent or another, but that specific curry smell matched most closely. The neurons and synapses representing this pattern then provided a map to the location in long-term memory of the pattern representing the family gathering. This memory then triggers those same happy and proud feelings, which you experience once again. As you can see from this, various sections of the brain may indeed have specialized functions, but they must still work together in order to provide what we somewhat loosely term 'intelligence'.

Although the sections of the brain are highly specialized, there is a degree of flexibility built into it. Until very recently, it was thought that the functions of the various areas of the brain were pre-programmed and inflexible, and that damage to one area of the brain caused, for example, by a stroke, would lead to irreparable loss of function throughout. The latest research, however, has shown that completely new wiring can actually be created, and that some areas of the brain can take on entirely new roles after physical damage has occurred to other sections. This flexibility of the brain is known as *plasticity*.

If we envisage again the three primary parts of the brain, the brain stem is physically the lower part of the brain, which connects to the spinal cord. It is often called the *reptilian brain*, as it was quite likely the first true brain structure which evolved in higher order animals. Along with the cerebellum, the brain stem is primarily responsible for the body's survival systems: for regulating our life support mechanisms such as heart rate and breathing, and for what is known as the 'flight or fight' response to perceived danger. Under stress, our basic survival instincts kick in and we produce chemicals that put the body under heightened alert. During these times of stress, higher order thinking becomes derailed, and, therefore, learning cannot take place effectively. It is for this reason that ideal learning environments are those that reduce a child's stress level to its absolute minimum.

Between the brain stem and the cerebral cortex is the limbic system. This is sometimes referred to as the *mid-brain.* The limbic system consists of several structures that manage our emotions and are responsible for some aspects of memory. The lower structures of the limbic system control our more basic and instinctive emotional responses, whilst the higher ones are responsible for making a more intellectual response to these emotions. For example, if you were to hear an unfair criticism of your work, the lower areas of the limbic system would deal with your more spontaneous responses such as blushing or shaking, whilst the higher areas would process the cultural and social issues that might help you to compose your expressions and make a measured response to your critic. This makes sense, as the higher parts of the limbic system are in closer contact with the cerebral cortex, where the most sophisticated

thought processes take place.

The cerebral cortex is the largest part of the brain, sometimes referred to as the *thinking brain.* Most high-level thinking processes take place here. It is physically separated into two sides, rather like two halves of a walnut. Many theories exist about the functions of these right and left hemispheres, and scientists are constantly discovering more about the left-right relationship. Sometimes people describe themselves as 'left' or 'right' brained. It is true that each individual has a dominant side, but to use these descriptions is too simplistic. It really does not matter which side is dominant, as the roles of the two hemispheres are interdependent, and communication between the two is needed for even simple tasks to be undertaken. For example, when listening to a piece of music, both hemispheres are hard at work. The left hemisphere is responsible for identifying familiar tunes, analysing and recognising sequences and rhythms, and identifying changes in volume. Meanwhile, the right hemisphere works on the 'bigger picture', whilst making pitch judgements and distinguishing between timbres.[ii] For effective learning, the right and left hemispheres of the cerebral cortex need to each do their own job and communicate effectively. The task of providing for and managing this inter-hemisphere communication belongs to the *corpus collosum,* which is like a super-highway through which messages travel.

Our understanding of the brain is increasing continually, as scientists discover more about how we learn and develop. As information becomes available about the functioning and capability of the brain, we can become increasingly effective in helping children to learn and develop to their full potential. What is perhaps startling is the fact that altering a child's environment and breadth of experiences can actually make a radical difference to his or her IQ level at a later age:

'Within a broad range set by one's genes, there is now increasing understanding that the environment can affect where you are within that range…. You can't make a 70 IQ person into a 120 IQ person, but you can change their IQ measure in different ways, perhaps as much as 20 points up or down, based on their environment.' Dr. Frederick Goodwin,[iii]

Scientists are helping to inform our practice more now than ever before. It is an exciting time to be involved with children's learning, and the adventure is only just beginning.

References

[i] Ronald Kotulak, 'Inside the Brain. Revolutionary discoveries of how the mind works', Andrews McMeel Publishing, 1997

[ii] Elizabeth Miles, 'Tune your brain – using music to manage your mind, body and mood', Berkley Publishing Group, 1997

[iii] Dr. Frederick Goodwin, quoted by Ronald Kotulak, 'Inside the Brain. Revolutionary discoveries of how the mind works', 1997, Andrews McMeel Publishing, Kansas City

intelligence

Home

'When I used to do spelling, I didn't really use my brain. Then I learned how to use it and it is really powerful!' B.J, age 7

Teachers who are the most successful in challenging circumstances, are those who refuse to believe that intelligence is a fixed commodity, determined by genetic inheritance and social factors. The remarkable success of Nicola's students was due in a large part to her refusal to accept that socio-economic factors should influence standards of achievement. In "*The ALPS Approach*' and *'The Thinking Child,* she argues that teachers need to be aware of the various forms of intelligence and work to develop intelligent behaviours in all their students.

Intelligent behaviours, according to research of Professor Arthur Costa of the Institute of Intelligence at Berkley, include being able to manage moments of impulse, persist when challenged, have empathy, and apply past knowledge. Robert Coles upholds that children can be taught moral intelligence and can learn empathy and respect. Daniel Goleman argues in his book *'Emotional Intelligence - why it can matter more than IQ'* (Bloomsbury, 1996) that emotional intelligence has a more significant impact upon a student's success than IQ.

Goleman quotes the 1960s' Stanford 'marshmallow challenge' study by Walter Mischel as an example of the importance of teaching children to manage the moment of impulse. Mischel found that the four-year-olds who were able to resist eating one marshmallow, sometimes for as long as twenty minutes, in order to gain two marshmallows on the experimenter's return, grew up to be '*more socially competent: personally effective, self-assertive, and better able to cope with the frustrations of life.'*

In '*The ALPS Approach*' and *'The Thinking Child',* suggestions are given for strategies to help children to develop stronger emotional intelligence and to learn to manage the moment of impulse. The theory of Howard Gardner's model of multiple intelligence is also explained and suggestions are given for techniques to develop the multiple intelligences in the classroom.

The multiple intelligences are:

- **Interpersonal**
- **Linguistic**
- **Visual and Spatial**
- **Musical**
- **Intra-personal**
- **Mathematical and Logical**
- **Kinesthetic**
- **Naturalist**

Each individual child has a combination of the types of intelligence, in varying strengths, and so each individual has his or her preferred learning styles. Drawing on a variety of intelligences and presenting lessons in VAK - visual, auditory and kinesthetic - forms, will enhance the learning opportunity for all children. Building self esteem is fundamental, and so examples of activities to build feelings of

academic competence are given. Teachers who use brain-based methods believe that intelligence can be developed and use a wide range of approaches to accelerate children's progress.

Recommended reading

The following books are recommended for further understanding of current theories of intelligence:

1. *Emotional Intelligence – Why it can Matter More than IQ,* Daniel Goleman, Bloomsbury, London, 1996
2. *The Brain's Behind It,* Alistair Smith, Network Educational Press, 2002
3. *Moral Intelligence of Children,* Robert Coles, Random House, New York, 1997
4. *Frames of Mind: The Theory of Multiple Intelligences,* Howard Gardner, Fontana, London 1984
5. *Building Healthy Minds, The Six Experiences that Create Intelligence and Emotional Growth in Babies and Young Children,* Stanley Greenspan, MD, Perseus Publishing, 1999
6. *Inside the Brain – revolutionary discoveries of how the mind works,* Ronald Kotulak, Andrews McMeel Publishing, 1997
7. *Endangered Minds – Why Children Don't Think – and What We Can Do About It,* Jane M. Healy, Ph.D., Touchstone Books, Simon & Schuster, 1990
8. *What's going on in there? How the brain and mind develop in the first five years of life,* Lise Eliot, Ph.D., Bantam Books, 1999
9. *Start Smart – Building Brain Power in the Early Years,* Pam Schiller, Gryphon House, Inc, 1999
10. *Teaching with the Brain in Mind*, Eric Jensen, Atlantic Books, 1998

using music

Home

'Music helps you to relax and to learn. It soothes you so that you can use your brain and think deep thoughts.' Paul, age10

'Music can make me lively and full of beans!' Darjit, age 6

Music has been shown in numerous studies around the world to have a remarkable impact upon learning. Studies have shown that music can significantly aid academic performance. Learning to play instruments, to recognise rhythm and to read music has been proved to enhance academic performance. Music can be used for specific purposes, such as Don Campbell describes in his book, *'The Mozart Effect.'* He tells how children have overcome specific difficulties through practicing reading with a metronome on 60 beats per minute. More relevant, perhaps, to teachers in the classroom, is the fact that music can be used to alter or enhance mood, to demarcate time on task, to energise, to aid relaxation or visualisation, or to commit facts to memory.

Nicola recalls vividly her first experiment with music in the classroom. It still sends shivers down her spine! “I taught a nursery class in Inner London. The four-year-olds used to stay for lunch, which we ate together in the nursery, next to the kitchens. After a few days, I hit upon the idea of using music to create a calmer mood. My nursery nurse was keen on the idea, and came into school the next day with a cassette that belonged to her husband. We put the cassette on and watched in amazement as the opening strains of music soothed our normally excitable nursery children. It was wonderful, for about five minutes.

Then the music started to pick up pace and volume. The children became more and more excited, and by the time dessert arrived, they were leaping around in their seats and the chocolate custard was flying! At that point, the Headteacher walked in. There I was, in my first week of teaching, almost losing control of twenty four-year-olds. It was horrendous. Fortunately, the Headteacher was a musician, and supplied me the next day with several more suitable cassettes. I can look back on that incident now and know that at least my instinct was right, music can have an enormous impact upon children’s mood and behaviour.”

In *The Thinking Child*, guidance is given for how to use music in the foundation stage, and ‘*The ALPS Approach,’* contains music selections under headings that will enable you to make the right choice for each occasion. There are further suggestions in *'The ALPS Approach Resource Book',* and here are a few additional suggestions:

To energise:

- Genesis. *Turn it on again,* from Three Sides Live
- Eric Clapton. *Swing Low Sweet Chariot,* from Cream of Clapton
- James Brown. *I Feel Good,* from I Feel Good
- Vivaldi. *Mandoline Concerto* (Kramer Vs Kramer)
- Pachelbel. *Canon in D major*
- Chopin. *Fantasy Impromptu op 66 in C sharp minor*

To authenticate a mood:

- Lighthouse Family. *Lifted* from Ocean Drive
- Deep Forest. *Marta's Song,* from Boheme
- Elton John. *Funeral for a Friend,* from Goodbye Yellow Brick Road
- Eric Clapton. *Let it Grow,* from Cream of Clapton
- Mozart. *Clarinet Concerto - Adagio* (Out of Africa)
- Mozart. *Piano Concerto No 21*

To demarcate time on task:

- Bruce Springsteen. *Born to Run,* from Greatest Hits (7 mins)
- Sister Sledge. *We are Family,* from We are Family

- Liszt. *Dream of Love No 3 in A flat major* (3 mins)
- Brahms. *Waltz No 2 in A flat major op 39/15* (1-2 mins)
- Handel. *Sinfonia* from 'The Messiah I' (3 mins)
- Sinding. *The Rustle of Spring op 32/3* (3 mins)

To relax:

- Annie Lennox. *Why,* from Diva
- Bitty Mclean. *Stop this World,* from Just to Let You Know
- Mike Oldfield. *Tubular Bells.*
- Schubert. *Ave Maria*
- Chopin. *Etudes op 10 - No 3 in E major 'Air'*
- Bach. *Concerto for 2 violins and orchestra* (Children of a Lesser God)

Recommended reading:

1. *The Mozart Effect - Tapping the Power of Music to Heal the Body, Strengthen the Mind, and Unlock the Creative Spirit,* Don Campbell, HarperCollins Publishers, 1997
2. T*he Mozart Effect for Children – Awakening Your Child's Mind, Health and Creativity with Music,* Don Campbell, HarperCollins Publishers Inc, 2000
3. *Tune Your Brain,* Elizabeth Miles, Berkley, New York, 1997
4. *Music in the Early Years,* Susan Young and Joanne Glover, Falmer Press, 1998
5. *Three Singing Pigs*, Kay Umansky, A&C Black, 1994

memory mapping

Home

`When my teacher uses memory maps it helps me to see how it all fits together. We learned the story of Macbeth using a memory map. We thought it was really exciting. I thought, "If I were Macbeth, would I be so bad?" I hope not! Maybe the king would have just died anyway, and Macbeth needn't have killed him. The witches are exciting because they just stir things up and disappear. It made me go all tingly to think about it. Some people say Macbeth is boring, but I think that is just because they don't understand the story. Memory maps help because you can see the whole thing on the board and draw pictures to help you remember it.' Ellen, age 10

'I like making 3-D maps with my group. Kevin has lots of ideas and he sends me to get the stuff.' Jimmy, age 5

We are all natural mappers. Children find mapping particularly easy, and so the earlier the skill is encouraged, the greater the potential for learning. The brain responds to stimuli by creating complex electro-chemical activity. In each new situation, the pattern of complex connections will be different. For example, when Harry plays in the water tray with a big blue funnel, he will recall that the water splashes, that his sleeves may get wet, and that if he lets go of the funnel, Marco may take it. The next time that he plays in the water tray, he may well make a connection about the seaside, because someone naughty put some sand in the water! He may also decide to try to tie the big blue funnel to his apron strings, because at the weekend he watched Mummy attach the dog's lead to her belt as she rushed to answer the phone.

In Harry's mind a complex map is forming as he plays. Connections are being made between concepts from a wide variety of experiences. He is not aware of the origin of most of his thoughts, but he is connecting continually. We all map, all the time. No two maps are the same, not even the maps of the same person in the same situation, as the connections that we make are complex and incredibly detailed. Using mapping techniques with children in the classroom utilises the fact that we naturally make connections.

In the early years, 3-D mapping is an easy way to help children to make connections, clarify concepts, and add language to learning. 3-D mapping uses items from the children's everyday experience, which are laid out on the floor and linked with pieces of string or strips of card. Pictures and labels can be added, and the map can later be transferred to paper if a permanent copy is required. Alternatively, children can return at a later stage to rebuild the map, so enhancing their learning.

Five steps to making a 3-D map

1 Gather the children on floor in a semi-circle. Talk about the topic for the map and write it on a big label and lay it in the centre. Draw a simple picture next to the word to show its meaning.

2 Now start to build the map, by asking children what they can remember about the topic. Write the key words on small pieces of card, along with a symbol or picture. You may want to have a supply of pictures already prepared to use. However, be careful not to over-direct the activity – your aim is to engage the children in building the map.

3 Ask children to fetch items that illustrate their ideas whenever practical. For example, a toy cat or dog can be placed on the map, or a wooden brick next to a plastic brick.

4 Next, use strips of card or paper, or lengths of wool or string, or if you are outside, use playground chalk, to connect the ideas and link concepts. Encourage the children to get up and help to build the map, and to talk about what they are doing.

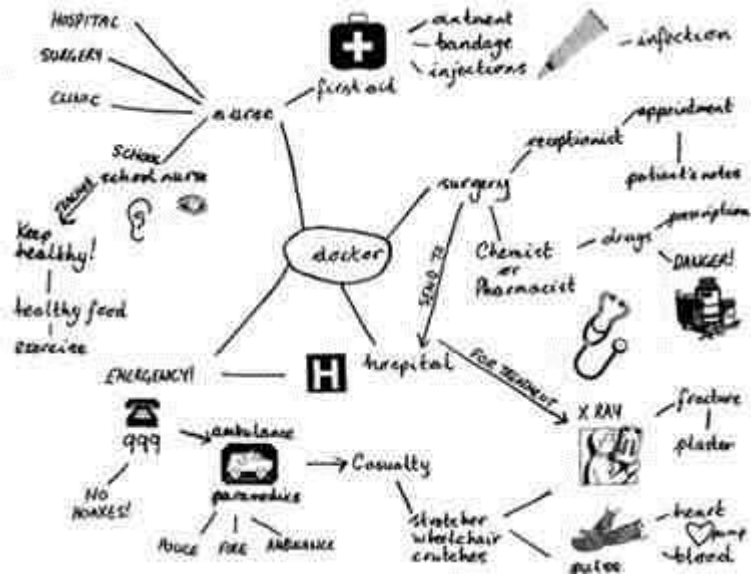
5 When the 3D map is complete, you can either dismantle it, or leave it out for children to work on through the day. You can draw it out on a large piece of card to be displayed and

revisited. Alternatively, you might want to take a photograph of the map for the children to refer to. At a later stage you may wish to make the map again, in order to extend the children's thinking. The maps can form a useful part of your assessment of children's understanding.

Older children can work as a class, a group, or as individuals to record maps on paper or on a whiteboard. Putting a map onto paper draws the learner's attention to the connections that otherwise may remain subconscious. It also gives the teacher the opportunity to engage with the thinker, to add more connections, to draw attention to new ideas, and to assess the understanding of the child. Teachers of older children often ask individuals to memory map their understanding of a topic, then add to the map at the end of each session. This gives children a clear idea of their own progress, and an excellent revision tool! Many ALPS teachers display memory maps on the classroom walls, using them for reference during lessons and to make connections between one lesson and the next.

Five principles of memory mapping:

- Write the key concept in the middle.
- Branch off with ideas as children suggest them.
- Write only key words and use lots of symbols.
- Begin to group and organise as ideas start to flow.
- Use arrows and colours to connect ideas.



Above is the simple memory map drawn by a class of four-year-olds who were learning about doctors. The teacher worked with the class to memory map their knowledge before the topic started, and again at the end. This activity enabled her to assess how much the children had learned, and how successful her teaching had been. A few months later, she memory mapped again, to assess how much had been retained. This gave her the information she needed to plan her next topic. By grouping children to map, she could assess individual progress and depth of understanding.

brain breaks

Home

*"I am clever at my letters. I practice at home. But my head gets tired so we do fun stuff. Mummy tells me the letter and I run fast – like this – and **JUMP** and point to it! Then we clap and Daddy says, "Oh, no! Sam beat me again!" I'm SuperSam and Daddy is SuperDad but I always win 'cos Daddy's too old and slow." Sam, age 5*

Regular brain breaks are a major feature of accelerated learning. Sam's teacher uses regular brain breaks at school and has shown parents how to use these activities to make learning at home more effective - and more fun! As a crude rule, add one minute to the average age of the children in your class. This is about the length of time that those children can maintain sustained concentration on a task. So if you teach five-year-olds, expect about six minutes before sustained concentration starts to decline. That is not to say that you need to take a break every six minutes, but it does mean that you need to make frequent opportunities for movement and refocusing activities.

Teachers naturally sense when children are going off task, and attempt to refocus attention. *The ALPS Approach'* and *'The Thinking Child'* give suggestions of how to do this in ways that strengthen neural pathways *and* reinforce learning. So in other words, rather than waste time on reminding children to refocus, you spend that time increasing brain-power and learning at the same time!

Brain breaks fall into several categories. Firstly, there is Brain Gym®, which has received a lot of media attention recently. Regular Brain Gym® sessions are very beneficial for younger children, as these cross-lateral movements can improve motor control, hand-eye co-ordination and excite the neural pathways that connect the left and right hemisphere of the brain. If you sometimes also combine these movements with academic content, for example drawing letters or numbers in the air, you are giving maximum input at all levels. Pole-bridging, saying what you are doing as you do it, can make your brain breaks even more productive. Physical movement also increases oxygen supply to the brain. Regular brain breaks give a moment for diffusion before returning to focus on the original task.

With older children, brain breaks can be used to teach new vocabulary, spellings or number facts. They can be simple reinforcement activities from previous lessons, such as an action rhyme to demonstrate the meaning of the word 'dissolve' for science, or turning your body through 90 degrees to show a right angle. Alternatively, they can be used to extend learning or make a connection to a previous lesson. They can also be activities that give a 'feel' and an emotional response, for example, scrubbing the floor like a Victorian child servant as a brain break in a history lesson.

Some teachers use simple, fun brain breaks to alter the mood in their classrooms and create a positive, enthusiastic atmosphere at times when concentration may be slumping, for example on a wet Friday morning when the after school soccer match looks like being cancelled! In *'The ALPS Approach'* we give many suggestions for brain break activities. If you'd like to see three more suggestions, click here.

Recommended reading

1. *Smart Moves – Why Learning is not all in your Head,* Carla Hannaford, Ph. D., Great Ocean Publishers, 1995
2. *Move It! Physical Movement and Learning,* Alistair Smith, Network Educational Press, 2002
3. *Brain Gym,* Paul E. Dennison and Gail E. Dennison, Edu-Kinesthetics, 1989
4. *The Learning Gym – Fun-to-do Activities for Success at School*, Erich Ballinger, Edu-Kinesthetics, 1992
5. *Rhythms of Learning,* Chris Brewer and Don Campbell, Zephyr, 1991
6. *Hopping Home Backwards: Body Intelligence and Movement Play,* Penny Greenland, Jabadeo, 2000

the importance of play

Home 

'Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.'

Albert Einstein

In her book *'Learning through Play: Babies, Toddlers and the Foundation Years'*, Tina Bruce outlines twelve important features of play:

- In their play, children use the first hand experiences that they have in life.
- Children make up rules as they play, and so keep control of their play
- Children make play props
- Children *choose* to play. They cannot be *made* to play
- Children rehearse the future in their role-play
- Children pretend when they play
- Children play alone sometimes
- Children and adults play together, in parallel, associatively, or cooperatively in pairs or groups
- Each player has a personal agenda, although they may not be aware of this
- Children playing will be deeply involved and difficult to distract from their deep learning. Children at play wallow in their learning.
- Children try out their most recent learning, skills and competencies when they play. They seem to celebrate what they know
- Children at play co-ordinate their ideas, feelings and make sense of their relationships with their family, friends and culture

Without encouragement to explore their world through play, children are likely to develop

difficulties in forming healthy relationships. Research on rats has shown that when deprived of play as babies, the result is disturbed behaviour when they become mature. Van Den Berg and a team of researchers isolated some baby rats for their fourth week and some for their fourth and fifth week of life. The rats were then taken out of isolation and caged in pairs. Some of the partner rats had also been isolated, whilst others had not. They found that those rats that were isolated for the two-week duration showed a reduction of social activity that was not altered even by partnering with a normal rat. However, the rats that were partnered with a normal rat after only being isolated for one week exhibited normal behaviours. The researchers concluded that there is a window of time within which the negative effects of isolation can be overcome through normal socialisation, but that extended isolation leads to irreversible effects on social behaviour.

This research must lead us to wonder what the effects are on adult behaviour for children who are denied play opportunities in their formative years. You only have to watch a toddler play to see how elements of his real world give structure to his play. Sometime in their second year, children usually begin to engage in imaginative, or symbolic, play. A yoghurt pot can become a telephone that is carried to mummy to be answered. A sandwich at lunchtime can evoke a game of 'feeding the ducks' and a bag of carrots can trigger a game where everyone in the family has to pretend to be a horse. This is the stage of play that Piaget labelled the 'preoperational stage.'

This morning twenty-month old Susie is lining up her teddy bears to feed them. First she offers a plastic apple, 'Yum yum', then a drink of water, 'Tup tup tup'. Next she offers a pretend bowl of porridge, 'No, no, no, me don't like!' squeals the first teddy. The imaginary porridge ends up on the floor. Susie is working through a scene from breakfast time, when she had decided that she would prefer a banana to porridge. Mummy didn't have any bananas. Susie had cried and thrust the porridge at her mother. She is still cross, and this game is helping her to process her feelings and make sense of what had happened. 'B'na-na later,' she tells teddy.

Susie's mother is paying attention and realises that Susie is working through the episode from that morning. 'I know you were upset that I don't have any bananas,' she says, 'shall we go to the shops as soon as you're dressed to buy some for lunch?' Susie beams a smile at her mother. 'B'na-na later,' she says. 'Yes,' laughs her mother, 'we'll have banana later.' She validates Susie's feelings and reassures her that it is acceptable to feel anger but that it is good to find a way to work through that anger and find a solution to the problem.

If Daniel Goleman argues convincingly that 'Emotional Intelligence' is a more influential factor determining a child's future than his IQ, then play has to be recognised as the cornerstone of education for young children, because it is the one single activity that provides simultaneously for intellectual and emotional development. In his book *Building Healthy Minds* author Stanley Greenspan describes 'the six experiences that create intelligence and emotional growth in babies and young children.' In order to reach a level of 'moral consciousness', a child has to learn to connect ideas and understand that actions will always have consequences. Initially, a young child learns to simply understand that her actions have consequences that might affect her emotionally. For example, when Sandra is cross because another child took her bucket and spade in the sand tray, she knows that if she snatches them back and hits her friend, her key-worker will not approve. The next level of understanding would be to realise, when the key-worker points it out,

that her friend would be upset if she hits him, although Sandra might not care too much! Beyond this level of thinking, which comes for most children between the ages of four and five, comes the ability for Sandra to put herself into the other child's position and be able to control her reaction, and even scale her response to the situation according to her desire for a specific outcome. She might decide simply to take back the bucket and spade, which will annoy her friend but not cause a fight, or she might decide to take them back with a little push, just to get the message across that she's upset. At this level, Sandra is making a conscious, albeit swift, decision about the level of response that she wishes to make in relation to the subsequent emotions that will be felt by the other child. Sandra needs guidance and consistent support to ensure that she learns to make responses that are appropriate to the situations that she encounters. She is developing emotional intelligence through her everyday experiences in play situations.

Getting the balance right

Experienced early years practitioners learn to judge when to become involved in children's play and when to simply observe and let children take the initiative. It can be tempting to over-organise or dominate the natural play in the classroom. A balance has to be achieved where structure and enrichment do not become control, and spontaneous play is allowed to develop. The classroom must offer a rich environment that stimulates and encourages spontaneous play. The practitioner's role is to observe, interact, and provide for the development and enrichment of play activities. Sometimes she will need to join in the game; at other times she will simply observe and make a mental note of how she might be able to extend the learning. Occasionally she will need to intervene to help children to manage their emotions or actions within the game. Through this sort of play children develop physically, cognitively, emotionally, and socially.

It is therefore disturbing to read reports of how some schools are cutting back on the amount of time spent on play in the classroom, and that some are even cutting the length of playtimes to make more time for 'teaching'. This is a serious mistake. It presupposes that learning for young children can be better achieved if it is 'taught' rather than facilitated. It completely overrides the basic truth that young children *learn best through play.* The intense pressures of testing, target setting, and the Literacy and Numeracy Strategies can lead to demands being made for practitioners to cut back on the amount of play that they provide for the children in their care. This pressure to reduce play opportunities should be strongly resisted. (This is not to say, however, that the quality and type of play provided should not be carefully monitored through careful observation.)

Time needs to be used to maximum effect, but 'wasting time' must not be confused with *spending time* on worthwhile non-academic activity! Children also need substantial periods of uninterrupted time to become engrossed in their own play. While this is happening, adult interaction can potentially become interference in learning, and the experienced practitioner will usually be able to sense when to stand back and observe the play and when to become involved. This uninterrupted time is essential if play is to develop and grow into real long lasting learning. Getting the balance right by intervening in play at the right moments is vital. Making the judgement of what is the right moment is a skill that can take a lifetime to perfect. The important thing is that practitioners are conscious of their motives for getting involved in children's play, and assess the

effect of such intervention. Being aware of the purpose for getting involved in play means that the practitioner can make a better judgement about when it is a good idea to join in the children's learning and enrich the experience, and when it is better to allow them to create their own adventures and follow them through to their natural conclusion.

The balance between adult directed, adult initiated and child initiated activities needs to be carefully monitored, for the whole group and the individuals within it. Practitioners need to be sure that new knowledge and experiences are systematically offered and reinforced, that new skills are demonstrated and practised, and that new opportunities are presented and discussed. Practitioners are now very aware of the goals for early learning and their responsibility for ensuring that children move towards these at a steady pace throughout the foundation stage. However, there can be a danger that:

- the adult's agenda will over-ride the need for children to play and experience things first hand
- the rush and hurry of the new curriculum will squeeze out the need for time committed to high quality play
- the emphasis on evidence, particularly in early literacy and numeracy, will result in children spending time completing worksheets for an evidence file, rather than talking about their play
- Practitioners will be affected by a 'top down' pressure from colleagues who do not understand the importance of play in the early years

It is important to remember that a 'second hand' experience, that is, an experience which is reported by another person, can never replace a first hand experience which involves all the senses, the whole body and ideally a supportive companion. It is important that practitioners provide a balance of types of play for the children in their settings, and that they also stand firm about its value and importance. This means that often practitioners bear the responsibility for educating others about the value of play. This can be done by:

- Valuing children's play by observing it, joining in, talking about it, praising good examples, telling parents about what happens and giving children opportunities to talk about it at plenary sessions and group times.
- Working with managers to ensure that there is a clear understanding about the value of play within the setting.
- Ensuring that all the adults in the setting join, value and observe play activities.
- Giving public value to play by talking about it to parents and others, ensuring everyone understand its importance, photographing it and recording what happens.
- Talking to colleagues who work with older children about play and providing them with examples and documentation to explain its importance.
- Leading workshops where adults have to explore new concepts – and showing them that the best way for them to do this is through first hand play experience!

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