



# Creativity -

## Lost Cause or Learned Art?

### Strands of Thought on Educating the Mind

#### Tony Buzan & Christine Miller

“Planning and producing each new edition of ReSource is a complex task, and authors and readers often ask me how I manage to keep so many strands of information clearly in my mind.

The answer for me is quite simple: I create Mind Maps.

I can't produce an issue of the magazine without Mind Mapping it.”

Best-selling author, and inventor of Mind Maps®, Tony Buzan, recently launched “The Ultimate Book of Mind Maps”, a “best of the best” volume designed to give a comprehensive guide to the benefits of Mind Mapping and how this tool, sometimes described as the “Swiss Army knife for the brain”, offers much more than a note-taking system.

In March, Tony Buzan also took part in the Great Education Debate, “Curriculum Versus Creativity”, at the Education Show in Birmingham, adding the power of his passionate belief in the inherent creative power of the brain to the topic under discussion. The other participants included Sir Ken Robinson, world-renowned speaker on education and creativity, and Professor Chris Woodhead, writer and former Chief Inspector of Schools, with comments from Tim Brighouse, currently Commissioner of London Schools and Chief Education Officer in Birmingham for nearly ten years.

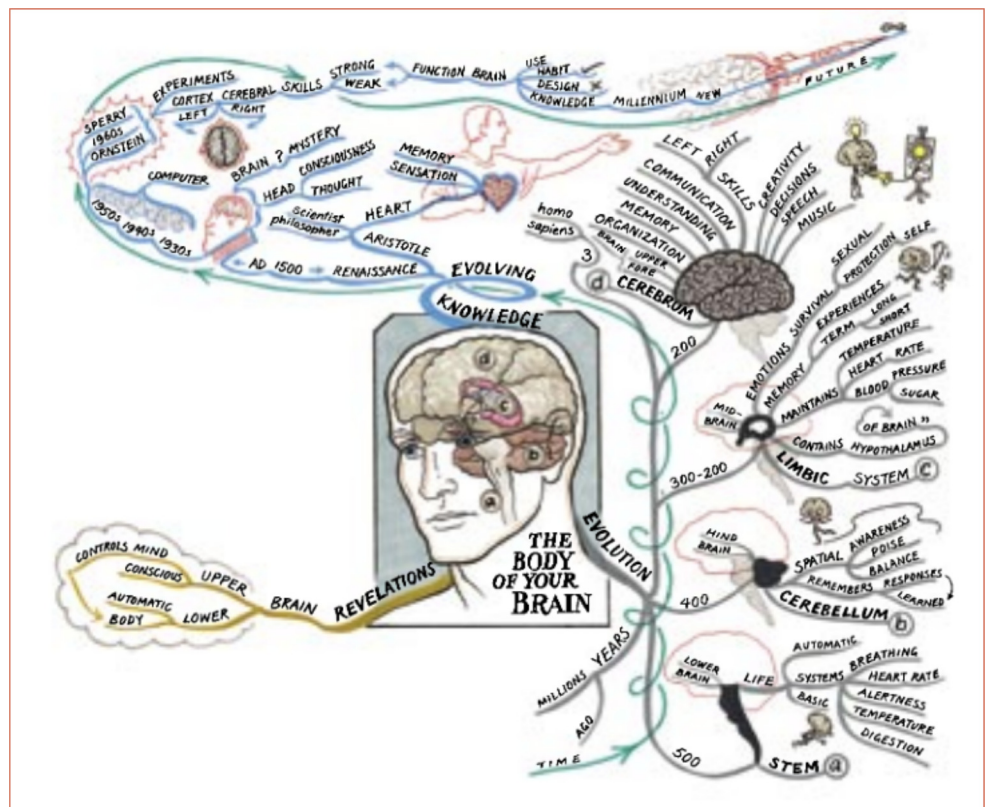
Tony's keynote speech lent weight to the argument that creativity is a vital ingredient for success on every level, and that our education system needs to pay attention to fanning the flames of

generative thought, rather than stifling them with an overly prescriptive curriculum. The concluding vote, after a lively discussion, was 198 votes to 2 - in favour of creativity!

We talked about Tony's new book, “The Ultimate Book of Mind Maps”.

Christine: Tell me what inspired you to write the Ultimate Book of Mind Maps®?

Tony: The realisation that I had been presenting Mind Maps as a thinking tool, with only a passing reference to the way in which the brain works to produce that tool. I wanted to show that there are Mind Maps “External”; that is, the External Realisation of Thought, and that this externalisation is the realisation of the internal Mind Map. This is based on physiology, on the structure of brain cells, in that it is a



mirror-process that the *physical* map in your head allows you to create a *conceptual* map in your head, and then allows you translate that externally into a Mind Map outside. So, on one level, the motivation was to complete the cognitive picture.

Another intention was to produce a book that was beautifully illustrated and congruent with its message. When the book says that you need Image, it should be festooned with images; when the book says you need colour in your imagination, note-taking and thinking, it should be lavishly coloured and illustrated; and as well as giving the inside-outside stories, it should give excellent examples of what Mind Maps should be, so that distributed throughout the book there should be really good model Mind Maps which both summarise what is in the book, and which act as models for what you can achieve when you are Mind Mapping well.

**Christine:** *It is beautifully produced, so you have definitely achieved that aim. So how would you summarise this book?*

**Tony:** As well as being about Mind Maps, it is also helping you map out your behaviour and future. It is a book about the *internal* cerebral structure of Mind Maps, both physically and mentally; about the *externalisation* of them; and about keeping the general system fit enough to make sure those Mind Maps are healthy. The book looks at the body as well as the brain, coming back to the idea of "*mens sana in corpore sano*" - healthy mind, healthy body - healthy body, healthy mind.

**Christine:** *That brings me neatly on to the next point - the seminar you gave at the London Personal Development Expo, in January, entitled "New Year, New You".*

**Tony:** That whole presentation was on the nature of the Maps of Thinking in Your Head. Consider that the pathways between brain cells are like paths in a wood, and pathways in the brain cells are made by thinking. Imagine that you are at one edge of a jungle, which is virgin territory, and you are instructed to go from one side to the other. To get across you will have to *machete* your

way through, and there will be a lot of resistance. As you meander and make your own map and path through that forest, you will encounter resistance all the way through. If you complete that journey, and then we helicopter you back to where you began, and you have to do the same journey again, there will be less resistance because you have already started to create a pathway in your mind.

It is the same with thinking in your head. If you have a thought, you create a pathway; and if you have many thoughts, you create many pathways, which are Maps. These are the internal Mind Maps in your head, and the more you repeat those journeys and revisit those Mind Maps, the less resistance there is to your doing that again.

In other words, *it gets easier*.

Reversing that (*and this is where for me it becomes incredibly exciting*), forms the basis of the theory on which I wrote the Ultimate Book of Mind Maps. If resistance to any pathway or thought is less, then the probability of something happening when you repeat a thought is *increased*, because there is less resistance. When you repeat a thought, there is a probability created around that thought, around that Mind Map in your head, and the question that is then raised is 'what is the probability of that thought repeating?'

The probability of *something* is increased when you repeat a thought, and the answers that were given by audiences when I asked the question were the answers that are *normally* given to the questions: "better memory", "more success" etc. They were all hovering around what the actual answer was, which is that if you repeat a thought, a Mind Map in your head, then the probability that it will repeat itself is increased. The probability is the probability of *repetition*, *not* of success, *not* of memory; the repetition of that Mind Map of thought in your head. So if your thoughts and your Thought Mind Map are inappropriate and you repeat them, you increase the probability of that inappropriate Thought Mind Map appearing again.

This is most common in some of the school subjects, Mathematics, Music

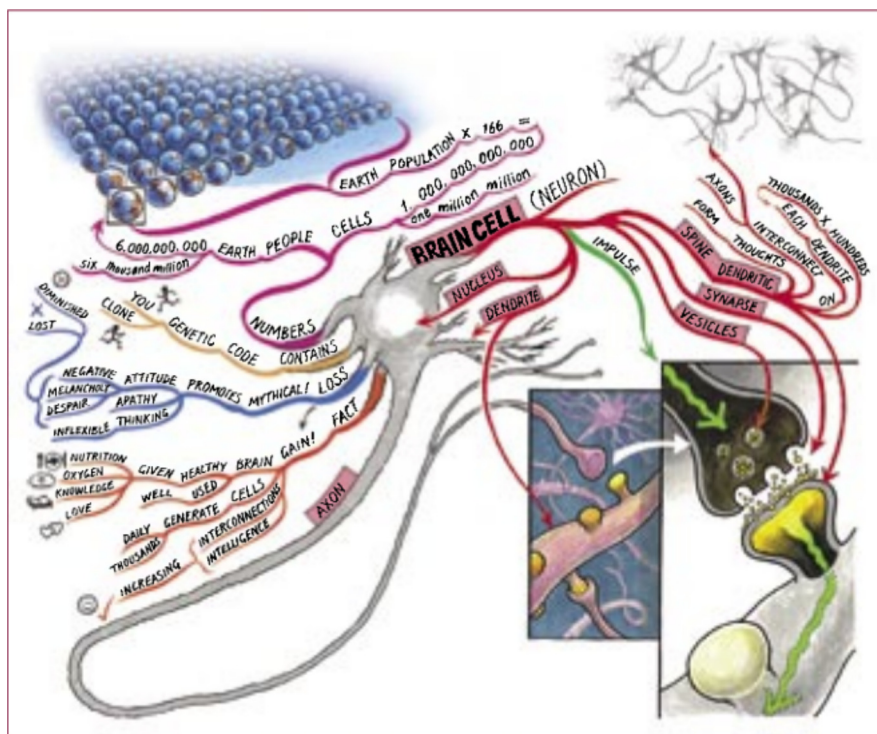
and Art, and people build up giant Mind Maps in their heads of how they "can't do Art", or how they "can't sing", "compose", "dance" and "remember music" etc., and the more you repeat that Thought Mind Map, the greater the probability that *that* Thought Mind Map will dominate your thinking and that you will, therefore, be creating the reality of what you were thinking about in that Thought Mind Map.

That Thought Mind Map will help you become a non-mathematician, a non-artist, a non-musician - and the minute you know that, you are then *finally* in control of your thinking process and of the probabilities of what your life will be like.

If what you then feed in to your brain and mind are beautiful, positive, proactive, mega-positive Thought Mind Maps, every time you repeat them, by thought or action, you strengthen that Thought Mind Map; and the stronger that Thought Mind Map is, the greater the probability that that thought will become a reality. If you feed in the Mind Maps of how to learn and do Mathematics, how to understand the alphabet of Art and the alphabet of Music, the more you feed in positive Thought Mind Maps, the more you become positively disposed and your potential within that particular discipline is realised; is unleashed. And it's all down to the Thought Mind Maps in your head.

**Christine:** *A young man at your book-signing told me that he always thought Mind Maps were just for business, and that after your talk, he realised they could be used for anything. He was quite indignant that he hadn't learned that before and hadn't been taught about Mind Maps at school.*

**Tony:** Yes, there are a lot of people who are, and the word *is* indignant, or hurt, that they haven't been taught this in their academic career, starting from school; and I am one of those people! Perhaps one of the only things that frustrates me when I am lecturing is that I am simultaneously aware of the fact that when I was a schoolchild and a university student, I didn't know this material. And if I had known it, it would have transformed my life.



**Christine:** Tell me more about being able to apply Mind Maps to everything.

**Tony:** Again, that is another of the purposes of the book; to say to people that a Mind Map is not just an externalised tool, although part of it is that. I heard another student saying after my lecture, “*what is interesting and somewhat tragic is that my university and a couple of my friends’ universities had people who were teaching Mind Maps and it’s treated like a subject which is separate; that you “do” Mind Maps and then you have “done” them. And that’s the end of it.*”

It is not presented as the life-long, intimate, deep rooted, necessary part of your thinking and cognition and the functioning of your life. What I am saying in the book is that if you realise that every thought you have, every second of your life, creates a little Mind Map in your head, and that thought is a physical reality, then your whole life is spent consciously building Mind Maps in your head and connecting those Mind Maps to each other, thus building up the giant internet of your internal knowledge. Therefore, on one level, the Mind Map, almost *is* you. ‘*I am a Mind Map!*’ It is an interesting thought.....

**Christine:** In fact, when you look at the representations of brain cells, dendrites and neural networks, they are replicated in the form of the Mind Map.

**Tony:** Yes, it doesn’t actually surprise me that the **conceptual realisation** of the brain should look like the **structural organisation** of the brain. That seems to make perfect sense, doesn’t it? An organ that is based on interconnection, association and mapping information - why would that supreme organ organise itself in monochromatic lists? It doesn’t make sense.

**Christine:** Indeed, and it is pictures that we have flash into our mind, wherever our mind’s representational system may be situated; whether it is outside or where on earth it is, wherever consciousness might be. I think for the majority of people, we don’t get a black and white snapshot; we get a major, moving, brilliantly coloured picture of our thoughts and ideas.

**Tony:** Now that, coincidentally, was one of the exercises that I gave in the seminar – I asked the audience what their Prime Language was, and what my Prime Language was. (I was thrilled to see that the audience was like the United Nations; we had people from

well over 30 different countries). When I asked this question, there were many different answers, and they all related to the language they had first learned as a child. I then gave them an experiment, a thought exercise, which I commend to your readers.

## Imagination Game

**Think of yourself as a computer, and observe how you process information and data. I want you to access a piece of data from your trillion-faceted data banks. Think about an Apple. How long did it take you to get it? What did you get? Was there any colour in it? What are the associations around it? Did you get a computer print-out in your head?**

In answer to the first question I asked - “*how long did it take you to get it?*” -everybody, no matter what their age, race, sex or level of education, said “*Instantly.*” It was *instantaneous*; now think of the accessing power that the brain has if it can do that. Here is a random word, from a voice that has never been heard by them before, in an ambient atmosphere, and they instantaneously access. According to the laws of maths and physics, that’s basically impossible. If anybody invented a computer which could do that they’d be the world’s richest person immediately - and it’s called the human brain. I then asked whether they got a computer printout in their head,

**A. p. p. l. e. -**

and of course nobody did.

They all got exactly what you just described, which was an image that flashed brilliantly and colourfully in their heads, and that image had associations. In other words, it was a little Mind Map, as every single word, image, concept *is* in your head. You think ‘Apple’, and in the centre of your Mind Map there is a little fruit, which can be red or green or yellow; you can have associations with food or juice or nutrition or doctors. So that is the way we think; we *don’t* think primarily with words, which is one of the great psychological and philosophical cul-de-sacs we have gone down for two centuries. We *thought* that we *thought*

## Möbius Strip

A simple description is that a surface is orientable if it has two sides so that, e.g., is it possible to paint it with two different colours. A sheet of paper, or the surface of a sphere, are examples of orientable surfaces.

A Möbius strip is a non-orientable surface: you can build one with a strip of paper (twist the strip and glue the ends together to form a ring) and verify that it has only one side: it is not possible to paint it with two colours.

**In short a Möbius strip only has one side and one edge.**

Ants would be able to walk on the Möbius strip on a single surface indefinitely since there is no edge in the direction of their movement. Just as M.C. Escher depicted in his famous picture (shown above)



Möbius strip was named after the astronomer and mathematician August Ferdinand Möbius (1790-1868). He came up with his 'strip' in September 1858. Independently, German mathematician Johann Benedict Listing (1808-1882) devised the same object in July 1858. Perhaps we should be talking about the Listing strip instead of the Möbius strip!

with *words*, and in fact, our standard language is a *sub-routine*. It's a very important, beautiful and poetic one, and it has incredible strength, but it is *based* on Mind Maps, and the grammar and the standard linguistic, etymological, philological sophistications arise from the basic Mind Map.

*Christine: And the people who are most successful in their use of words, of language are the ones who use it in the most evocative way, involving all the senses.*

**Tony:** Precisely. The Mind Maps in your head, the Thought Mind Maps, are synaesthetic. All of us think with *all* our senses, and the more you can involve all those senses in your thinking, in your primary Mind Map, then you have a much greater probability of being able to communicate with other sentient synaesthetic beings. It's a nice Möbius Strip.

The brain feeds on the senses and the senses feed the brain; and the more developed they are, the better the communication between two people.

*Christine: And that is why torture based on sensory deprivation is the most effective and devastating.*

**Tony:** Yes; unless you know how to control it.

*Christine: People such as Viktor Frankl, who were able to keep the dream alive, remained alive by maintaining the pictures in their minds of what might be possible, so had that inner life of their own. Anne Frank would also fall into that category of people who have survived such incarceration.*

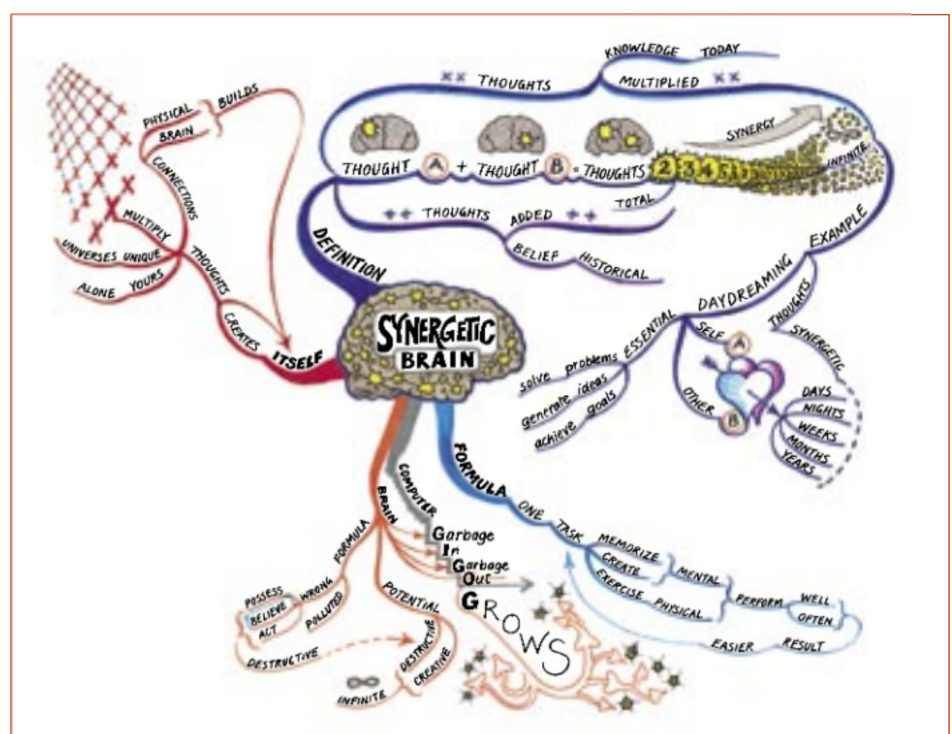
**Tony:** Without question. In other words they keep their sight; you can't take away the inner sight of what a human thinks.

*Christine: It's all completely fascinating.*

**Tony:** That you can certainly say again. One other branch of what we are discussing is the fact that if we all think in Mind Maps, and if our brains are physically structured like Mind Maps, this gives a much greater and more immediate insight into memory, and especially creativity, because memory is based on **connection, association and imagination**. The great memorizers were ones who had vivid imaginations and could make the most powerful associations between those multi-sensory images.

Looking at the way my memory worked and did not work was what led me to discovering Mind Maps in the first place. It always *did not work* when I could not locate the image, and when I couldn't find the connections to the image, even if I had it; and it always *did work* if I could immediately find the image, and then immediately find the appropriate associations with that image. If you put what I have just said down, illustrated on a page, you have a Mind Map - an image with associations.

I then began to realise (with the



help and provocation of my brother, Professor Barry Buzan), that if this model was working so well for memory, then surely it must work similarly for creativity. In 'The Ultimate Book of Mind Maps', that is one of the main thrusts of the argument.

If you actually look what a Mind Map is and look at what creative thinking is, you find that a Mind Map is a multiplexed creative thinking tool and manifestation, because to be creative you have to have an image, and you have to have another image to make the new connection. Like Newton with "falling apple/moon - *Aha!*" - Gravity. Kekulé, who discovered the Benzene Ring, saw images of flames going up in spirals in his fireplace, when he was thinking of molecular structures and suddenly, *Aha!* - it all clicked. Einstein was the same; he used to play imagination games, trying to find new connections. Leonardo da Vinci said '*everything connects with everything else - go and find those connections*' Thomas Edison used to lay out his entire laboratory on a series of big flat desktops in a factory hall that he had rented. He would wander around all his different experiments, finding connections between them, and it was very often an experiment at the far end of his room that would suddenly trigger the thought for the solution in another experiment that he was simultaneously conducting.

In the Ultimate Book of Mind Maps what I am saying is, that the Mind Map is intrinsically you, as well as being the manifestation of the way the brain internally structures its thinking, and as well as being a bird's eye view photograph of what's inside you as you think. Therefore, being a memory, it is also a totally focussed creative thinking tool. It allows you to see all the images and feel the connections so that in one big, visual gulp, you've got it. Then you multiply the associations and the connections, and that is the process of creativity. It's what Beethoven did, it's what da Vinci and Picasso did. If you look at da Vinci's notebooks, that is a perfect manifestation of it; all these mini proto-Mind Map forms, isolated drawings and then connections between them, which is how he used to manufacture his own thought.

**Christine:** *Is there anything else you would like to say about creativity?*

**Tony:** Creativity has been for many centuries thought of as a magical, mysterious gift that only one in a billion people is blessed with, that it is, on some level, unteachable. To my delight, in the last 15 years opinion has begun to change to the fairly self-evident truth that creativity is like any subject or skill area: something for which we all have the potential, but we need the *tools* to enable us to realise that potential.

Creative thinking, as I mentioned earlier, is based upon the whole idea of multi-sensory images connected to other multi-sensory images which are startling and new. So we now know the basis; we know that everybody daydreams, that *everybody* has that fantastic image-making capacity. We know that everybody can make associations. We know that everything is connected in some way to everything else and that one of the main tasks of creativity is to find new connections between the quadrillions of *possible* things that can be connected in the universe.

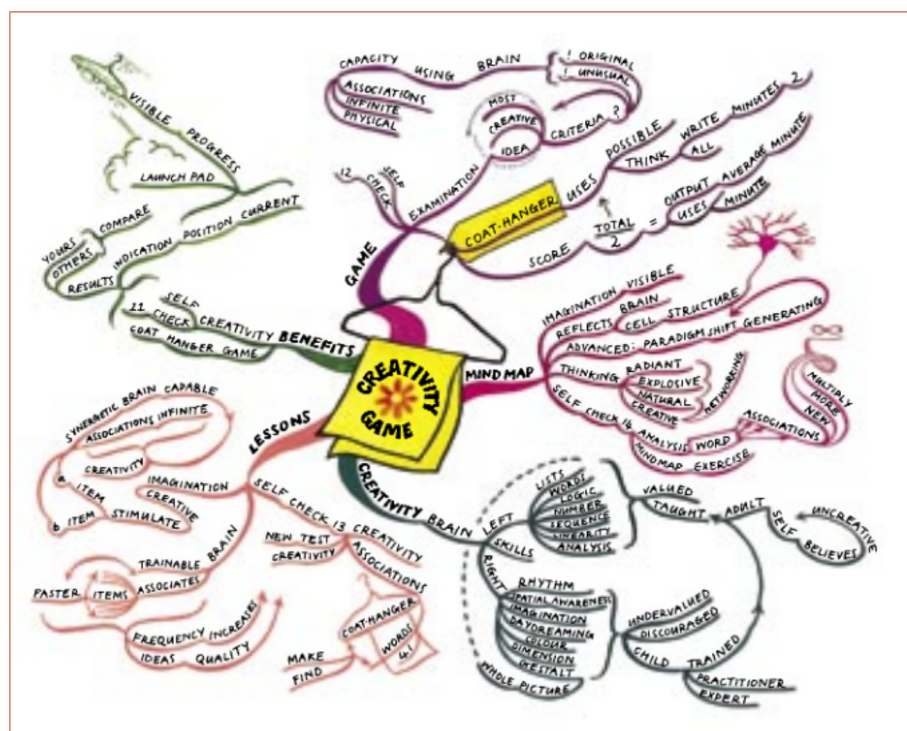
So we have an infinite playground! You get the equipment of the human brain which is astonishingly capable of making infinite connections. We also have the recent scientific evidence that the average number of thoughts/

connections/mini-Mind Maps the average human brain can make is greater than the number of atoms in the known universe.

We then have the ironic, almost ludicrous, psychometric measuring of human creativity, suggesting that the average person can think of 4 uses for a paperclip in a minute, and will run out of ideas at around 24. This actually means our psychometrics are measuring the almost total degree of imprisonment into which we force our creative thinking capabilities, unwittingly stunting a process which should fly, and continue to fly throughout our lifetime.

We realise that it is all based upon imagination and association; we realise that we all have the potential to roam that infinite Mind Map of our minds for the entire duration of our lives; we therefore need supplementary tools to help us hone our creative thinking skills.

One is *speed* of thinking. Creative thinkers tend to think very fast and make rapid connections; you can train yourself to do that, simply by going into a dictionary and picking out any two words and finding connections between those two concepts as quickly as you can, or playing the same game with your friend - what's the connection between a rowing machine and a pebble - and you have to find as many



as you can, as fast as you can. You will accelerate your thinking speed.

Another honing tool is *originality*, trying to think of connections or images that have never been thought of before. Again, you can increase your ability to do this.

Another major honing tool is the concept of *flexibility*, which means the ability to see things from different perspectives.

You can train yourself, yet what we have done in the last few hundred years, is to do the opposite of that; we've trained ourselves to think logically and to think schematically, but *not* to think differently; we've been trained, rigidly, to think in the same linear manner. For example, when children start to have "strange" or "weird" thoughts, they are rapidly shuttled back on line and shepherded with the flock back into the corral of linear thinking. What a prison! Wasn't it wonderful that 198 out of 200 senior educationalists present at the debate at the Education Show felt similarly, and voted in agreement with the horror of a limited curriculum."

*Christine:* Every time you add a new strand of thought to your Mind Map, whether it's the *internal* Mind Maps of your marvellous brain, being constantly created and re-created by the power of your attention and intention, or your *external* Mind Maps, signposting and supporting the development of rich ideas and actions leading to your greater success, each action, each new thought, reinforces your existing talents and abilities, also forging new pathways and laying down fresh neural networks.

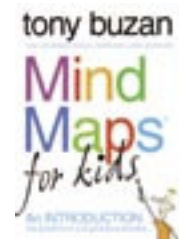
So if Mind Maps open up your possibilities, lead to you fulfilling more and more of your potential, helping to unleash the full force of your creativity - then let's use them more! Let's make sure they are more widely taught! Let's get really indignant that these skills are not firmly on the school curriculum, just like the young man at the seminar; let's *insist* that they are widely taught, and used to foster the gifts and talents of all, so that our powerful Human Resources are more fully engaged in the creating of a future to fulfil all our dreams.

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## A MIND MAP SUCCESS STORY

Last year some friends were moving house and wanted their children to go to a particular school. There were tough entrance exams, and the parents were quite concerned about the children's levels of ability and memory. There was no need to be concerned about their level of ability; it was simply the way they had been taught that was the problem.

I gave them copies of both 'Mind Maps for Kids' books, and they said that it had transformed their studying. In fact, it transformed their whole experience, because previously, when the mother was working with the children she found it quite frustrating; but once they had been introduced to Mind Mapping, it made a huge difference and they both got into the school with flying colours. **Christine**



### A new partnership in education

Buzan Plus is a partnership between Tony Buzan and The Alpha Plus Group. Buzan Plus™ will make state of the art thinking, teaching and learning skills provision accessible to every teacher, pupil student and parent in the UK. The techniques will be relevant from nursery school through to higher education.

The core of the offering will be the well-established Buzan methodologies enhanced by the best practice employed within the Alpha Plus Group. Tony Buzan himself will lead the Buzan Plus team. Tony is the inventor of Mind Maps® & Speed Reading and is the world's leading author on the brain and learning; having published 85

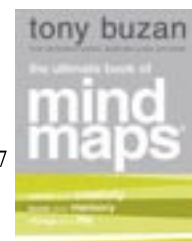
books selling in excess of five million copies.

Buzan™ techniques are successful in more than 100 countries and his work has been translated into 30 Languages. The Alpha Plus Group is the UK's largest independent education group comprising 20 schools and colleges. Alpha Plus will contribute heads, teachers, psychologists and educational consultants to the Buzan Plus team. Buzan Plus will provide its services through INSET, consultancy, seminars and stand alone educational toolkits

### the ultimate book of mind maps

#### Tony Buzan

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**Tony Buzan** is the author of the bestsellers How to Mind Map, Mind Maps for Kids and Mind Maps at Work. He lectures all over the world and is published in 100 countries and 30 languages. He advises multinational companies (among them HSBC, Barclays International and Hewlett Packard), leading businesses, governments, educational authorities and international Olympic athletes.

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