

# Being creative in times of turmoil and change

It can be very difficult to be creative during times of turmoil and change.

The greater we perceive the stakes, both professional and personal, the greater the stress and tensions we feel and the less patience we can often have for different thinking that seemingly threatens to take us away from the immediate problems pressing down hard upon us.

In fact it can often feel as though there is a perverse law at work that states:

'The more difficult and challenging the times, the more a willingness and ability to be both creative and innovative is needed in order to discover new solutions to the problems faced.

The willingness and ability to be both creative and innovative, however, tends to diminish in direct proportion to the increase in the difficulties and challenges faced.'

In testing times we can easily assume that anything creative will require much effort that will prove ultimately wasted. At best there may be a few grains of gold sifted from the laboriously mined perspectives and ideas, but they will certainly not justify the time, effort and expense incurred.

It is true that to be effective creativity requires effort, but this effort need not be wasted. This article will describe how people can develop the habit of creative thinking and problem solving, thus making it an integral part of their approach to life and work.

## **Four aspects crucial the development of creative thinking and problem solving**

To develop the habit of creative thinking and problem solving we need to do four things:

1. Prime our minds for creativity
2. Develop whole brain thinking
3. Use practical and simple tools and techniques
4. Adopt a purposeful and disciplined approach

## 1. Prime our minds for creativity

In order to be creative we need to ready our minds for it. We need to apply a priming undercoat to our thinking upon which the habit of creativity can be applied.

Specifically, we need to:

- Do new things and talk to new people
- Ask questions, especially naïve child – like ones
- Look for and make connections between diverse objects, situations, issues and problems
- Vary the way we describe things

**Doing new things and talking to new people** will keep our thinking flexible and open to new possibilities.

In the 1950's representatives from the Japanese company Toyota visited USA car manufacturers to familiarise themselves with the most up to date working practices. During their tour, however, they decided that rather than visiting yet another car manufacturing plant they would do something different and go to a self – service grocery store called 'Piggly Wiggly'.

They were struck immediately by the lack of goods each shop had in storage and compared this with the US car manufacturers' then current practice of stock piling lots of parts at their factories. This observation led to the 'Toyota Production System' that is based upon providing materials needed for manufacture 'just in time', as they are needed and not before, thus cutting down storage and associated staff and supplier costs.

Toyota, by going off the beaten track and doing something new gained an insight that would help assure its future for the next 50 years.

**Asking questions, especially naïve, child – like ones** will help identify unhelpful assumptions and uncover aspects that would otherwise have remained hidden.

There is a well-known story about a washing up liquid company that illustrates this aspect well. The company wished to increase sales of its product, so it held workshops with staff to gain their ideas about how this could be achieved and also undertook an expensive advertising campaign.

As a result of the above actions an improvement in sales was achieved but not enough for the company's Directors. So more workshops were

held and at one of these a junior staff member asked the following simple question: 'If we want to sell more washing up liquid why don't we make people more likely to use more by making the whole at the top of the bottle bigger?' It is not known if the company acted upon this insight, but the power of the naïve question is self evident.

**Looking for and making associations between diverse objects, situations, issues and problems** can lead to creative insights and ideas. The Toyota example given above illustrates this aspect well. The people from Toyota made an insightful and helpful connection between two very different types of business, a self – service supermarket and a car manufacturing plant. Another good example of making a helpful connection between diverse items and situations is the invention of Post It Notes.

Two people, Spencer Silver and Arthur Fry, invented Post It Notes. Spencer Silver, a chemist, invented a glue that was strong enough to stick paper to a surface but weak enough to ensure that when the paper was pulled away from this surface it did not tear.

Having created this glue he struggled for several years to find an application for it that was marketable. But as soon as Arthur Fry found out about the glue he associated it with a situation he had to deal with regularly. He sang in a choir and used pieces of paper to book mark the hymnals he sang from. These pieces of paper had the unfortunate habit of falling out of the books at the most inappropriate times, usually just before having to find the next piece that was to be sung. Applying Spencer Silver's glue to small strips of paper would create sticky bookmarks that would not fall out so readily, thus Post It Notes were born.

Making a connection between an invention without an application and an everyday problem led to the creation of one of the most successful products of the late 20<sup>th</sup> Century.

**Varying the way we describe things** can help us perceive them in new and helpful ways. In the 1960s a Dutch engineer named Karl Kroyer was presented with an urgent and demanding problem. A ship had sunk off the shore of Kuwait. It had been carrying a cargo of sheep and there was a danger that their carcasses would start to rot and contaminate the country's main source of drinking water.

No heavy lifting gear was available, so another way of getting the ship to the surface was required. Even though there was an urgent demand for action Carl Kroyer took time to reflect upon the problem and think about it in a different way. What would happen if he thought about the problem as one of raising the ship to the surface, of somehow

making the ship lighter, rather than focusing upon lifting the ship to the surface?

This change in the way the problem was described led to an innovative solution. Kroyer decided to pump the ship full of polystyrene foam balls that contained lots of air. The ship effectively became lighter and raised itself to the surface.

In this instance investing time in describing the problem in a different way averted a potential health crisis.

## **2. Develop whole brain thinking**

In order to develop effective creativity we need to be both logical and intuitive, to be able to use and develop both the left and the right sides of our brains.

The right side of the brain deals with intuition and feelings. It is the mother load seam from which the unexpected associations and ideas that are the raw materials of creative problem solving are mined. The left side of the brain deals with logic and rational thought. It is the refinery within which the most effective solutions are selected and finely honed.

Most of us, because of our education and training, have been conditioned to favour logic over intuition, the left brain over the right. If we wish to be creative we need to address this imbalance. PMI Thinking and the PINC Filter are two techniques that can help us do this:

### **PMI Thinking**

PMI stands for positive, minus and interesting. Our education and conditioning encourages us to use logical left – brain thinking when addressing issues and problems. We identify what is positive and/or negative about an issue or situation and then look for solutions that will help us maximise the former and minimise the latter.

This type of binary thinking serves us well in many situations, but if we want to prime our minds for creativity we need to add a third aspect to our thinking. In addition to making judgements about what is good or bad or right or wrong we need to train ourselves to recognise and appreciate those things that defy any categorisation other than being interesting, intriguing and stimulating.

The rational, logical nature of binary thinking removes from our awareness anything that cannot be categorised as falling on one side or another of a judgmental 'Is it good or is it bad?' fault line. PMI or Triple Thinking makes us suspend or 'bracket' such judgements. It encourages us to notice and dwell upon those things that fall between the cracks of our rational thought processes. It is within these cracks that valuable deposits of new perceptions and ideas can build up, waiting to be discovered, dug out, hauled to the surface and exploited to our advantage.

To develop PMI or Triple Thinking get into the habit of asking three simple questions when addressing a situation, issue or problem:

- What, specifically, are its positives?
- What, specifically, are its minuses?
- What, specifically, are its interesting aspects?

It is important to describe the above aspects as clearly and specifically as possible.

You then ask yourself how you can maximise the positives, minimise the negatives and, crucially, appreciate and exploit the interesting aspects to your advantage.

In addition to suspending or bracketing judgmental thinking whilst focusing upon what is interesting, it is also important to hold interesting and intriguing aspects in full view for as long as possible, resisting the temptation to dismiss them prematurely. This will give the right brain time to make intuitive associations that can then flash across to the logical left brain, enabling your mind to strike a golden seam of insight.

### **The PINC Filter**

The PINC filter is a tool that builds upon PMI by splitting the 'Interesting' category into two, forming a right brain mirror to the logical left brain's positives and minuses.

PINC stands for positive, intriguing, negative and concerning. To use the tool to develop the habit of whole brain thinking ask yourself the following questions (similar to the ones given in the previous section) when addressing a situation, issue or problem:

- What, specifically, are its positives?
- What, specifically, is intriguing about it?

- What, specifically, are its negatives?
- What, specifically, is concerning about it?

By dividing right brain reactions into those that feel more stimulating and exciting and those that feel more worrying and threatening the PINC filter helps us refine our ability to identify and explore the ever shifting colours of our intuitive and emotional responses to things. This increases our likelihood of uncovering hidden aspects and associations that could prove helpful.

### **3. Use practical and simple tools and techniques**

Once we have primed our minds for creativity and developed the habit of whole brain thinking we can build upon these foundations by making use of practical and simple creative thinking tools that can work well within the rough and tumble of our everyday working environments.

Any tools that we select for this purpose need to adhere to three principles:

- They need to be attractive to use
- They need to be feasible to use
- They need to contribute to results

Tools need to be attractive to use because the more people are drawn towards and want to use them the more effective they will be at encouraging creative approaches and ideas.

Tools need to be feasible to use because if they are too consuming of time and other resources they will prove counterproductive, the results not justifying the effort invested in gaining them.

Tools need to be focused upon results because without an overall aim or end point in mind they can spin out of control, creating lots of frenzied and sparkly thinking but very little in terms of tangible and useable ideas.

Three examples of tools that can conform to the above principles are:

- Cherry Splitting
- Structured Mind Burst Brainstorming
- NAF Analysis

## Cherry Splitting

This is a very good practical and simple to use technique for defining or reframing<sup>1</sup> a problem. It looks and feels logical (left brain) and it also encourages intuitive right brain thinking.

Take the initial problem and write it at the top of a page. Then split it into two aspects that relate to it. Next split these two aspects into two more each, and then those four into two more each until you feel you have exhausted all aspects relevant to the problem.

You then reflect upon your work and look for patterns, themes and issues that stand out as important to the problem.

Also make a point of asking your self if anything seems to be missing. Does the completed Cherry Split make any omissions obvious?

Lastly, ask yourself how your view of the problem has changed. In what ways do you see it differently?

It is a good idea to write down the redefined problem, so that you and anyone else interested in it are clear about exactly what it is and how it has changed.

To see Cherry Splitting in action go to:

<http://www.youtube.com/watch?v=6V9TgYYDuZM>

## Structured Mind Burst Brainstorming

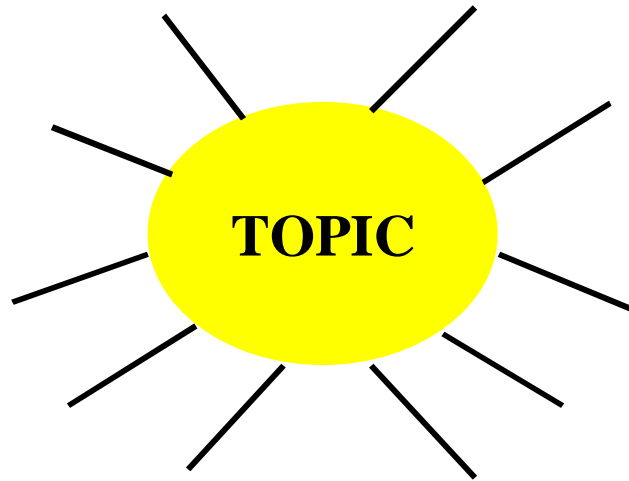
The Structured Mind Burst is an approach to group brainstorming that can gather a lot of ideas and potential solutions very quickly. It is deceptively simple, but because of its simplicity it is extremely powerful.

Firstly, each person creates a diagram as follows (ten spokes radiating out from a central circle):

---

<sup>1</sup> Defining or reframing a problem is about looking at it from different angles, breaking it down, gathering various perspectives about it and identifying its causes rather than focusing upon its attention grabbing symptoms.

## The Structured Mind Burst



In the central circle is written the topic to be explored.

Then each person, without conferring with anyone else, writes their ideas on or at the end of each of the spokes. If they can think of more than ten ideas then they just add spokes.

Next, each person pairs up with someone else, shares their ideas and adds any new ideas from their partner to their own mind burst. The pairs then find another pair and do the same thing, adding any new ideas from others to their own mind bursts.

This process goes on until everybody has shared all their ideas and added all those from others to their individual bursts. These ideas can now be grouped and analysed as appropriate.

The Structured Mind Burst is an improvement upon traditional brainstorming in three ways:

- Firstly, people are encouraged to think individually about the topic and generate their own ideas without being influenced by others in the group.
- Secondly, because each idea is individually acknowledged people are encouraged to participate and generate more ideas.

- Thirdly, as ideas are shared and discussed ways to integrate them can be found and additional ideas can also be generated.

### **NAF Analysis**

This tool is used to help select those ideas and solutions that will be most effective in addressing the problems faced.

NAF stands for new, attractive and feasible. When deciding upon the most appropriate solutions to implement you can look at the solutions identified and ask yourself: Which ones are new in that they have not been used before? Which ones are attractive in that people will be motivated and willing to use them? And which ones are feasible in that they are realistically achievable and there are resources available to make them a reality? The ideas that score most highly in each of the categories will be the ones that are adopted, developed and implemented.

The above process can be done quickly, providing a rough – cut of ideas, or if necessary it can be more robust. This latter approach would involve creating ratings, rankings and tables based upon opinion and evidence etc.

Each of the above tools is attractive because people are usually willing and able to use them. They are also feasible because they are simple to use and do not require lots of resources.

Also, when used within a purposeful and disciplined structure, they will contribute effectively towards a positive end result. This latter point will now be developed in the next section.

## **4. Adopt a purposeful and disciplined approach**

To creatively problem solve effectively we need to manage a paradox that lies at the heart of the process. This is that the more purposeful and disciplined our overall approach, the more creative and intuitive our thinking will become within it.<sup>2</sup>

---

<sup>2</sup> This is illustrated well by many activities where creativity is an integral aspect, for example architectural design, art and sculpture and musical composition. Focusing upon the latter, some of the most creative and inspirational music is also some of the most disciplined and purposeful. Fugues by JS Bach and the symphonies of Mozart are prime examples. The demands of the structures both composers were working within inspired them to generate creative and inspiring musical solutions.

An overall structure that is purposeful and disciplined is outlined by the three tools described above. The first tool, Cherry Splitting, helps to define or redefine the problem being addressed. The second tool, the Structured Mind Burst, helps to generate ideas and potential solutions. The third tool, NAF Analysis, helps to select the most effective solutions.<sup>3</sup>

These three stages, defining, generating and selecting, provide an overall structure that can make creative problem solving a purposeful activity leading to a helpful end result. The process can be likened to the work of an architect, who makes initial sketches to get to grips with the problems presented, creates models to try out various ideas and solutions and then submits final designs for a fully realised building.

## Summary

You can develop the habit of effective creative problem solving by:

1. Priming our minds for creativity
2. Developing whole brain thinking
3. Using practical and simple tools and techniques
4. Adopting a purposeful and disciplined approach

**Priming your mind for creativity** will keep your mind flexible and open to new ideas and new ways of doing things.

**Developing whole brain thinking** will enable you to explore your intuitions and uncover new and helpful insights and associations.

**Using practical and simple tools and techniques** will ensure that you can apply creative problem solving to your day to day issues and problems.

**Adopting a purposeful and disciplined approach** will ensure that you make the most of your creative abilities and that you always work with your end result in mind.

## Sources

Bard, S. and Bard M./2002/The Complete idiot's Guide to Understanding the Brain/2002/USA/Alpha Books

Buzan, A. and Buzan, B./1993/The Mind Map Book/2000/London/BBC World Wide Limited

---

<sup>3</sup> To see more tools categorised under the headings of Defining, Generating (or Creating) and Selecting go to <http://creatingminds.org/tools/tools.htm>

Creativity and Innovation Techniques – an A to Z/[www.mycoted.com/category:creativity\\_techniques/](http://www.mycoted.com/category:creativity_techniques/)10.01.10

Garmon, J./What Comic Strip did Patent Authorities Use to Deny a Patent for Karl Kroyer's Ship – Raising Method?/[articles.techrepublic.com.com/5100-10878\\_11-5140368.html](http://articles.techrepublic.com.com/5100-10878_11-5140368.html)/03.03.10

Lavery, D./Creative Work: On the Method of Howard Gruber/[davidlavery.net/gruber/pages/cwomhg.htm](http://davidlavery.net/gruber/pages/cwomhg.htm)/10.02.10

Spencer Silver/[en.wikipedia.org/wiki/spencer\\_silver](http://en.wikipedia.org/wiki/spencer_silver)

The Creative Tool Box/[creatingminds.org](http://creatingminds.org)/10.01.10