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User - Centred
web Design

CREATIVITY – BREAKING THE BLOCKS AND THINKING ANEW
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What is “creativity”? There are many interpretations of the term, but for now, let’s stay with the aspect of creativity that comes up with new ideas or new ways of looking at things. I am not describing the *physical* aspects of creativity (such as writing a program or building a pergola), but the *design* aspects.

“You employ stone, wood and concrete, and with these materials you build houses and palaces. That is construction, ingenuity at work.

Le Corbusier

“But suddenly, you touch my heart, you do me good, I am happy, and I say ‘that is beautiful,’ ... you have established certain relationships which have aroused my emotions.”

Can anyone do it? While some people are more naturally creative than others, nearly anyone can learn to be creative. The old elitist idea “creativity is a rare skill” is now generally accepted to be false.

Koberg and Bagnall in *The Universal Traveller*, and Betty Edwards in *Drawing on the Artist Within* discuss this further.

“Solutions which merely work are not creative.

“Creative solutions lead, inspire, provoke, advance, delight; turn us on to their correctness, obviousness and simplicity.

“Creativity is beyond the norm, or abnormal.”

Koberg and Bagnall

Creative people have a number of behaviors in common. They are more spontaneous, habit free, non-conformist, aware of many different things and self-confident. They read a lot, discuss a lot, play a lot. They generally do better when they have people who trust them, believe in them and give them physical and emotional space. They are capable of moving between a detached view of the “problem” and a highly involved, immersed view of it. They become fascinated; they speculate,

tease and explore possibilities, often in a playful, unconventional or extreme way. They can suspend practical constraints and be wild and intuitive with ideas while also being able to snap back to logical, analytic reality. To be truly creative takes more exploration time; this is repaid by new and innovative ideas.

"The formulation of a problem is often more essential than its solution, which may be merely a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old questions from a new angle, requires creative imagination and marks real advances."

A. Einstein

Creative people generally have the "left-brain" competencies (analytic and problem-solving, memory and recall, practical and constructive) combined with the "right-brain" competencies (spatial and pattern-matching, intuitive and insightful). Their skills often join the speculative with the analytic and the verifier. They go beyond the norm and this often means they are not the detail specialist, but the highly competent, keen learners of new things, more widely skilled.

Informality leads to creativity, but how should we manage it? It seems that there needs to be an informal environment, in which there is top-level, credible management sponsorship, environmental and behavioral support, and – especially for those new to it – some facilitated structure to aid creative thinking, and to provide for the formality of the analytic and testing out of ideas.

Creativity – your behavior and attitudes

Fear

Fear is a *blocking* emotion. It prevents movement and roots you to the spot. Fear constrains and rejects risk taking. Fear may be the greatest enemy of creativity and can take many forms. Have you ever feared:

- making mistakes
- being successful
- criticism
- losing security, money or status

- wasting time or going over budget
- being disliked or not being accepted
- being true to yourself?

Try making a list of your fears. Do it *now*, while you are thinking about them. These fears are your compass. Practice facing your fears and “walking into them,” releasing them. Try with small fears first to get practice and then develop. Keep pushing at the edges, gently, of your fear envelope. Take a risk a day.

Curiosity

Children are innately curious – everything is new, fascinating, to be explored. They touch, taste, feel, push, grab, squeeze, react, laugh, cry, grimace or smile without inhibition. They are totally curious and spontaneous. Everything is an exploration, a testing ground of experiment.

This is how children learn. They see patterns and they make sense of the world that sometimes is the same as ours, and sometimes is not. That is often their delight, and so we should delight in “oddball” people and ourselves when we are being curious and experimental.

My daughter, when she was five, on seeing a man with a road drill, asked me what he was doing. “He’s drilling the road,” I said innocently. “Oh, he’s going to put a screw in it,” she said. Curiosity and wild patterns. This thought could lead to a totally new more efficient way of putting up road signs.

So, be curious and fascinated, delight in what you see and who you meet, be free from false pride, be free from the expectation of others, be involved and 100 percent present, be active and playful, explore, be a truth seeker and an experimenter. Again, take a risk a day.

Belief in yourself

If you don’t believe in yourself, who will? And if you don’t, you will probably fail. Everything in the world began in the mind. Nothing that was ever created by humans did not exist first in the mind. Everything comes from your thoughts. We create the world we live in. So, if we don’t believe in ourselves, we create an outcome that matches that. Equally, if we believe in ourselves, we create the outcome that matches

that. OK, it's about probabilities really, nothing is ever guaranteed, but it's good to put the odds in our favor.

How can you believe in yourself? Start with little things – find something new to stretch yourself and commit 100 per cent to achieving it. Make it more than you've done before, but not too much more. You may be surprised at how successful you can be. As you achieve more, you believe more. As you believe more, you create more.

Notice someone who seems to be full of self-belief. Notice how they behave. Notice their positive characteristics. Learn to mirror them and see how it feels. See that you too have many positive characteristics. Develop your own ego strength. Accept compliments; don't deny your strengths but allow yourself to say what you are good at. Be strong enough to be vulnerable, open to making mistakes and recognize that a mistake is only a way of exploring what works and what doesn't – a mistake is a creative act.

Make a commitment to stretching, thinking positively about yourself, believing in yourself and your creativity. Once more, take a risk a day.

Constructive discontent

If everything is "fine," you are probably not trying to improve. And if you are not trying to improve, you are not creating anything new. And if you are not creating anything new, you are dead; you are on a life support machine.

Discontent is a prerequisite for problem solving. Discontent is one of the most creative emotions. Discontent must be honored and respected for its value.

I was working as a consultant in an organization where they were going to dismiss a young man on the project because he was always discontented. I spoke to that man and found out why. It was because he could see a better way of doing things so we could all do what we did more effectively – he was very bright but frustrated. He did not have the skill to communicate his discontent constructively. I spoke to the management and invited them to see another point of view. They listened, heard the man, kept him and the productivity increased.

If you want to get creative, practice some constructive discontent. Get rid of all the mantras, "Let sleeping dogs lie," "Keep your head down," "Don't rock the boat," "Just do what you are told," "Don't

criticize.” However, remember that you must be *constructive* with your discontent – learn to communicate fully what you are thinking in a constructive, open and positive way. Take a risk a day.

Wholeness

A sense of wholeness is a sense of roundedness, a sense of being able to see and feel from many different viewpoints. We are generally either more right-brain oriented (non-verbal, spatial, visual, feely, perception, intuition) or left-brain oriented (logical, analytical, verbal, writing, mechanical, detailed). It is said that most women tend to be right-brain oriented and most men left-brain oriented. Try watching the behavior of the opposite sex and try acting out their observed behavior patterns. Try doing things you don't often do, like painting and drawing, or dancing, or listening to other kinds of music, or going to museums or art galleries you haven't been to, or eating in unfamiliar places, or involving with people outside of your own familiar cliques or genres. Try acting out others' points of view, arguing against your own.

Consider whether you feel you are more sensing, feeling, intuitive or judgmental, whether you have a predominant style. Try acting out the least predominant style and find out what that feels like.

On a project, it is good to have a mix of people (right/left brained, sensing/feeling/intuitive/judgmental, positive/negative, calm/fiery), who can make the team whole by bringing the mix of characteristics together. But try for yourself to make yourself whole also.

Control habit

There is a belief that there are “good” habits and “bad” habits. Good habits are those that move you in the direction of your vision and values. Bad habits are those that move you away from your vision and values.

However, habit with awareness and thought is neither good nor bad, it is just a habit, and habit is not creative. Habit is what we do when we don't think. It is engrained in us from past experience. It has proved useful in the past. It does not mean that it is bad, but unthinking habit is not creative, original, new or fresh. It is stagnation.

No famous creator ever followed the path of their peers; they all broke new pathways. Einstein did not come up with the theory of relativity by following group habit, he did it by creative active visualization. Feynman did not find the cause of the Challenger

disaster by following habitual pathways, he did it by going where the others would not. Jung did not break new ground in understanding the unconscious by following his peers or predecessors, he did it by following his deepest "heart" emotions.

Dare to be original, dare to be different, dare to be true to your own self. Creativity demands listening to yourself. Consistently, creatively break habits. Stop conforming, become unique, be prideless, fearless, adventurous, self-believing truth seekers. Take a risk a day.

If everything in your life is totally sorted and totally at ease, you're probably not taking a risk, you're probably not being creative, and you are probably not being true to yourself (unless of course you really have got it all sorted out?).

How do they do it?

W. J. J. Gordon described four paths to creativity.

- *Involvement and detachment.* Looking at things from an involved inside view and also looking at things from a detached outside view of the problem.
- *Deferment.* Don't jump to the first idea, look at more than one way and explore and examine.
- *Speculation.* Be prepared to speculate, even wildly, have fantasies and visualize in the mind.
- *Autonomy.* As a design takes shape, it begins to take on a life of its own, e.g. Lara Croft of Eidos software.

Creative thinking needs two approaches according to James Sowrey – association and analysis. Also, much current research suggests there are two modes of thinking, right brain and left brain. Usually, we are predominantly more one than the other. Betty Edwards (*Drawing on the Right Side of the Brain*) and Guy Claxton (*Hare Brain, Tortoise Mind*) both discuss creativity and the left brain/right brain issues. Accordingly there are two primary classes of technique for creative discovery.

- *Associative* – speculative, intuitive, spatial, emotional – right brain.
- *Analytical* – factual, logical, linguistic, rational – left brain.

Associative thinking tends to be *divergent*; it uses speculation to generate a wide range of ideas and possibilities. Analytical thinking tends to be *convergent*; it uses logic to work with ideas and facts determine the best solution. We achieve our best when we have a balance between the two.

Associative techniques

Synectics

Begin looking at unusual relationships.

James Webb Young explained in his book *A Technique for Producing Ideas* that “the ability to make new combinations is heightened by an ability to see relationships.”

“Synectics” (William J.J. Gordon in his book *The Metaphorical Way of Learning and Knowing*) looks at analogies between two seemingly unrelated things. It invites us to ask how x is like y.

For example, at random, how is a financial information system like the contents of an icebox? This may cause us to think about how we organize the icebox, and indicate how we might organize a financial information system differently. We may decide to categorize items by frozen, liquid, fresh vegetables, renewable, and thus have financial information stored by a similar connotation.

Free association

Take a word, phrase or idea, and list everything that comes to mind when you think of that word. Take the first thoughts that come up, however random they may seem. Be visual, aural, verbal or kinesthetic. It is similar to the use of synectics, but differs in that you are making a subconscious association, rather than something that seems dis-associated.

Getting inside the problem

This idea involves visualization in a different way. Here we imagine we are actually the design or part of the design, and see what it feels like being that part. For example, we may imagine that we are the PE of a share and notice that we keep getting changed by small amounts

each minute, and every now and then we get changed by a large amount, highlighting the relationship between the share price (minute-by-minute changes) and the earnings per share (annual changes). We may notice that we change nothing so far as we can tell. This may lead us to structure the visual design of the financial information by the categories of highly dynamic changes and periodic changes.

Of course, for this example, we could come to the same conclusion by data analysis and structuring techniques, but we may not have such a visual sense of how we might portray it to the users.

BRAINSTORMING

Brainstorm process – how to do it

Get a group of people together, with a facilitator. The ideal group size is 10–12, though brainstorming can be done with less, even with just one person. The facilitator looks after the timing, suggesting, encouraging, balancing views, clarifying, co-ordinating while not taking control of the ideas, leaving ownership with the group.

Brainstorming is generally carried out using a whiteboard or flipcharts to record suggestions. A way that I find most useful is one I adopted in 1989 using small PostIt notes. Each PostIt is restricted to one idea. I find the best method to be a three-stage process.

1. *Brainstorm on PostIts as individuals.* Each person works by themselves for a small period of time, say five minutes, or until it looks like the volume of ideas is slowing down.
2. *Share and develop on a table in small groups of three or four.* Begin to develop a structure and a sharing on a table in smallish groups, allowing time for each person to share and discuss – do this as a two-stage process, first laying out and developing more, then developing and discussing.
3. *Share and develop on a wall in the whole group.*

Categorization

Share and develop on a wall set up to collect the PostIts in whatever structure you are working to. The structure may be: the six hats; organizational objectives; user, task, object; or any other of the discovery structures in the book. This can take around ten minutes or so.

Rationalization process

Collect all similar ideas together. This is a facilitated stage, where the facilitator is looking after the ideas of all, and clarifying meaning. It is good if members of the group help actively with the clustering. Keeping duplicates together helps to achieve a sense of the collective sense of importance of an idea. If something is mentioned many times, it is clearly important. Equally, if something is mentioned only once, it may be unimportant – or it may be a previously unthought of brilliant idea. Judgment is still deferred until later.

Prioritize

This stage requires organizing ideas by perceived value. With the whole group working together, begin moving the PostIts into positions on the work wall that signify their importance by some value judgment. Be clear about the criterion of the value judgment. This may be urgency of investigation, perceived worth to the company or design, ease of implementing and so on.

This can be done more than once by different criterion. Each organization should be recorded.

Re-brainstorm

Bring the whole group together the following day to add to any of the ideas and discuss the issues and ideas further.

Analyze

Create an action plan, allocating responsibilities and timescales to investigate the ideas further. This may be to check feasibility, validate the risk, investigate the facts, further structure and analyze and so on.

Brainstorming rules

There are some basic rules in brainstorming.

- *Criticism or judgment is not permitted.* We are looking to expand our thinking at this time; judgment and criticism stops the wildness, volume and spontaneity of ideas. Analysis takes place after the initial brainstorming is finished.
- *Be intuitive, immediate, wild.* Just get it down. Don't use your logical analytical mind at this stage. Take responsibility for your own feelings. Just do it, if a thought occurs, get it down.
- *Go for quantity.* The more you can get the better. There is time later to reduce.
- *Encourage the silent ones.* The facilitator should use their skills to be aware of what is going on and find ways of encouraging the silent, quieter members of the group. They often have things of great value to add. Working on PostIts helps because they don't feel overwhelmed by the more vociferous, since the vociferous are also working privately at this time.
- *Do it now – don't wait for others.* Don't be a sheep, be a lion. Go for it yourself rather than waiting for the flock.
- *Build on others' ideas.* If an existing idea sparks off an idea of yours, write it down, don't hold back. This is most likely to happen during group sharing.

Recognize the limits of brainstorming

Brainstorming is just that. It is the seed of ideas, not the final answer. A friend of mine thinks brainstorming is a waste of time. In checking why, it is because he perceives people think it is the answer, whereas I see it as the question.

See brainstorming as the question, the start of an investigation, rather than the answer.

SIX HATS TECHNIQUE

The six hats technique was introduced by Edward de Bono. It is used to explore a variety of perspectives on a problem. It can be used privately as well as in group working.

I have used it successfully in consulting to blue chip clients at the early stages of the project, and working with project teams. It can be illuminating, frustrating, enjoyable and ultimately of enormous value. Doing this with an experienced facilitator working with a team from all levels of the organization can draw out many unspoken fears and expectations, dreams and visions.

It is not for the manager who is faint of heart, who has a fear of failing; they usually block it and say it is not appropriate for their team. These are the ostrich managers, head in the sand and don't want to face the truth; they usually end up failing later, when it is too late, with their team holding them in low esteem.

The "mountain lion" manager, however, will love this technique – it will enable them to face the true realities and opportunities head on, to put right what is wrong and make the most of what is right. Their team will respect them for it. The procedure is described below.

What are the six hats?

There are six perspectives from which to view a problem.

- *White* – facts, information, neutral.
- *Red* – pure emotion, don't rationalize, feelings.
- *Blue* – control, organizational issues.
- *Black* – negative logical, why it can't be done.
- *Yellow* – positive speculative, benefits, why it will work.
- *Green* – creative, new ideas, added value, visions.

The facilitator introduces the principles of the six hats, then poses the problem to the group. The problem is expressed in terms of the project the group are working on. For example:

"Our project is to produce a website which will provide up-to-date financial information to private and corporate investors. We aim to be market leaders and to be recognized as the authority on financial information in the most useful way possible for our clients. We want our website to pay for itself within nine months and our clients to feel our charges are repaid twice over within six months of use."

The facilitator asks the group to work initially by themselves, brainstorming on PostIt notes. (See *Brainstorming* earlier in this chapter.)

Then the facilitator guides them, e.g. "With this project in mind, do a personal six hats brainstorm about all aspects of the project."

The group will normally spend 10–15 minutes writing down everything they can think of.

The facilitator can walk about and be available for non-leading suggestions and answering any questions that might arise.

Then the facilitator will invite them to place their PostIts up in a shared space such as a work wall. Everyone should then read everything that has been said, and to add any more that other thoughts might spark off. Duplications or extensions are fine. That is the point; to get a fuller feeling, like a collective unconscious about all aspects of the project expressed and out there.

By having the thoughts expressed on PostIts, there can be a degree of anonymity and thus greater freedom of expression. Managers and team workers alike can vent their anger or frustrations as well as their visions and desires. This is why "ostrich" managers hate it.

The whole process will take about 45 minutes before the group energy begins to wane. At this point, while it is still fresh, it is possible to work on organizing, prioritizing and allocation of responsibilities to deal with issues. However, sometimes it is better to leave this on the shared workspace and come back to it at the end of other exploratory work. An experienced facilitator who also knows the business of software systems development can decide which to choose.

An example of a six hats brainstorming

An extract (the actual output was six pages of A4 created in 30 minutes) of a six hats brainstorming created by a team I facilitated who had worked on other projects in the same organization came out with the following. In this case, most concern was with project development problems, and so not much attention could be given to visionary

design. But, this at least gives management a clear understanding of the issues to address and those to support before excellent design can be undertaken.

Facts (white)

- Interfacing with other business systems need to be considered early in the project.
- Scope of project will change.
- External influences will delay the project.
- Timescales of project will change again.
- I don't know enough about the subject.
- It is not a widely understood process.
- Only one person to start process.
- Hard to get team motivated with constant change in plan/timescales.
- No clear management steer!
- What will users expect from the system?
- It will be an easier system to use.
- Customers expect something soon.
- There is snow outside!!

Logical (black)

- Management are being unrealistic in expectations of delivery timescales.
- Politics are not letting the project progress!
- Overtime – I don't want it!!
- Not enough time.
- How can we implement "visionary" screen designs where the business dictates brevity and speed?

280 SIDE TRIPS

- Current system constraints.
- Interfacing with systems which are written in other languages!
- Only one person on analysis not enough. Insufficient resources.
- The users are going to want something more than just information.
- What is the main direction of project?
- Behind schedule before we even start!! Project has to deliver something – soon!!
- Development method not clearly defined.
- There is no method fully explored to move analysis to design to implementation.
- Where do we start!
- Why are we doing this workshop now? (We should have done it a year ago!)
- Not enough knowledge of the user's process.

Positive/speculative (yellow)

- Get more users involved.
- We have a large skill set. We have good ideas/knowledge within team.
- This is potentially going to add benefit to customers making a difficult task easier.
- Use the database information system to advantage.
- We have a strong team and great team spirit.
- Good team skill levels.
- This type of brainstorming/analysis should have been done a long time ago.
- We have really good socials.
- It has to work.

Emotions/feelings (red)

- Good team spirit (social).
- Management controlling timescales are either unaware or ignoring the extent of detail and changes involved in each deliverable.
- Our site is going to be the best!
- Passion is preventing logical thinking.
- What happens to us if we don't deliver; if we fail, where do we go then?
- Very complicated. This area is too complex!
- The team consists of a number of intelligent and creative personnel who have yet to spend a long time period on design and development – how is morale going to hold up?
- We don't have the right personnel resources. Who is it going to involve?
- Feel we are "putting off" doing the harder parts of the site.
- I don't want to do overtime. I want to go skiing.
- This is an exciting project to work on.
- Maybe we've missed a much easier/quicker way of doing this project.
- It seems we are short on creative input until something has already been done. Suddenly, everyone's got a view (usually different from what you've done).

Control/direction (blue)

- Not enough thought has been put into how the project is organized – who does what – methods, etc.
- We don't know the plan or timescales, can it be done in time?
- No direction – always in replanning!
- More positive direction/support is needed from senior management.
- Management view/politics may prevent delivery in time.

282 SIDE TRIPS

- Too many people jumping on bandwagon and preventing project moving forward.
- Conflicts with other systems.
- What can we reuse?

Creative/visions (green)

- Guide the user through a process from a high level.
- Improved streamlined process will impress customers.
- Give information associated with change in share price trends.
- It should have the "look and feel" of money.
- Integration with existing systems.
- Reduce support staff work load.
- Personalize with portfolios and personal interest news feeds.
- We can split up the development in smaller parts and share round responsibility more.
- We should talk to users early and get involvement plus a marketing advantage.

Summary

The actual percentage of comments per category were:

- White – 16
- Black – 21
- Yellow – 11,5
- Red – 23
- Blue – 13,5
- Green – 15.

These results indicated an overall feeling of emotional concern and negativity or fear. Each of these issues should be assessed, prioritized and addressed.