



Creative Thinking workshop

Without exception everybody has creative ability but of course with different degrees depending on the active circumstances that may either help enlarging creativity potential, or weaken the creative sensitivity. Up to the fact that each person has different circumstances than others, family, education systems, peer groups...etc, are all examples of different environments that influence the creative ability of a person uniquely.

Whenever barriers emerge in face of creativity they must be identified and removed, in a way that ensure the highest creativity potential. Creativity is highly required for a successful career, when working in an i*EARN project creativity seems to be the key skill for making a change. A change is always something new that you bring to existence, finding out or creating the idea behind this change is the role that creativity takes to play in while the project is processing.

Change is one of the main domains within which creativity emerge as an active and essential element. Changing the existing means finding the alternative to it, and for doing this a person will need creativity skills in order to find proper alternatives that are to make a significant influence shaping the meant change.

- **Analytical and Creative thinking:**

Consider the following problem:

Problem (1):

"Roberts golden wedding anniversary"

This problem requires logical thinking or counting, and it leads to a unique answer. Giving that and analytical approach has been followed, it would have resulted in misleading consequences. Out of this problem we identify two sorts of problems -*analytical* and *creative*- and logically enough two sorts of thinking are required.

Analytical thinking is logical and leads to unique or few answers, as it narrow down to a small number of ideas which can be further analyzed and implemented.

Creative thinking requires imagination, and leads to many possible answers or ideas, as it starts from the description of the problem, to give many ideas for solving it, or possible answers to it.



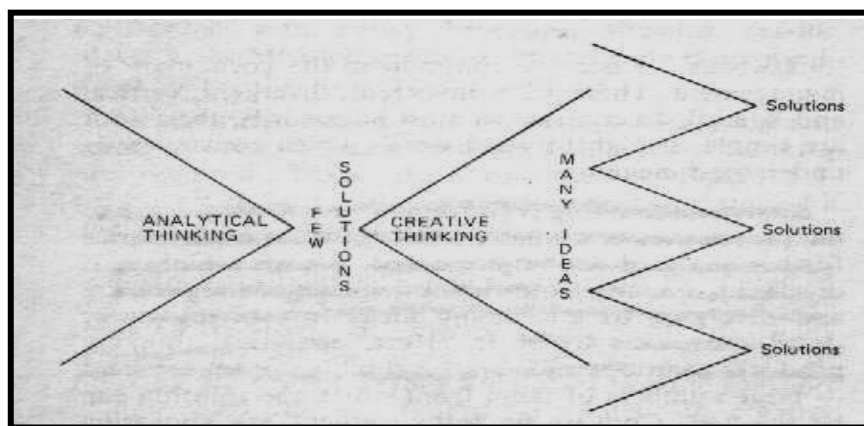
While the two sorts of thinking are different, they are linked because one sort complements the other. This is evident in creative thinking, where the many ideas must be later analyzed to sort out the few that can be implemented. Analytical thinking consolidated ideas and solutions and must be followed by creative leaps if progress is to be made.

FIGURE (1):
Two sorts of thinking.

Analytical	Creative
Logic	Imagination
Unique (or few) answers	Many possible answers or ideas

Analytical and creative thinking are illustrated with few solutions and many ideas. The process can be continued indefinitely, where creative thinking is used on solution to generate more ideas.

FIGURE (2):
Two sorts of thinking.



Two misleading features in the diagram:

- 1- People are better at creative thinking than analytical.
- 2- Creative and analytical thinking are separated.
- 3-

• **Definition of Creative Thinking:**

Creative thinking is:

The relating of thing or ideas which were previously unrelated



Humour, or the well told joke, illustrates this definition completely. The punchline at the end of the joke takes the listener into a strange field, unrelated until the story teller makes the relationship (and the listener accepts it). This relationship is totally apparent after it has been made, but the strangeness of the connection contributes to the other factor making for the success of the joke. Notice that creative thinking uses things or ideas that are already in existence, it does not seek to invent new concepts, although the final outcome may appear to be new through the joining of two or more *existing concepts*.

Many examples of creative thinking exist. The separate ideas of ocean tides and the movement of the moon have been known for thousands of years. It was only in the seventeenth century that *Kepler* linked the two. A contemporary astronomer, *Galileo* laughed at the idea as mere superstition.

This example and many others emphasize that the information must be there to be combined in different and new ways. The creative man spots the link and makes the discovery. As Louis Pasteur said: "*Fortune favours the prepared mind*".

An aspect of creative thinking is *dreaming*. Dreaming is believed to be an essential requirement in the way in which the brain works, and there are very few people who do not dream. Recall a dream – this may be difficult – and think analytically about it. The images appear to be quite unrelated, disturbingly so in some cases. They move from one scene to another, with effortless ease and no apparent links. The link must be there although considerable effort may be required to establish them. Dreaming, or day dreaming as it is sometimes called, is not considered to be a part of the analytical person's kit of tools. In fact, it is actively discouraged. How often have you heard the phrase: "*I wouldn't dream of doing this*"? I believe that dreaming should be a part of every person's way of life. Perhaps if he allowed himself to dream a little bit more and established some of those curious relationships, the options available in the problem solving would be wider and would lead to better solutions.

- **The barriers to Creative Thinking:**

It has already been established that there are two sorts of thinking – *analytical* and *creative* – and that the average person is better at analytical thinking because of his background. While everybody has an innate creative ability, there seem to be barriers which prevent the average manager from using it effectively. It is these barriers which will now be discussed. The identification and acceptance of them, and their removal in creative session is an essential requirement.

- **Self-imposed barriers:**

The self-imposed barrier is one of the more difficult barriers to recognize. We put it up ourselves, either consciously or unconsciously. If the latter, an understanding colleague or a friend is required to point out (tactfully) our error. Once recognized, it is however one of the easy ones to dispose of.

Problem (2)

"The dictation game"



Now consider another problem. What do you make of this?

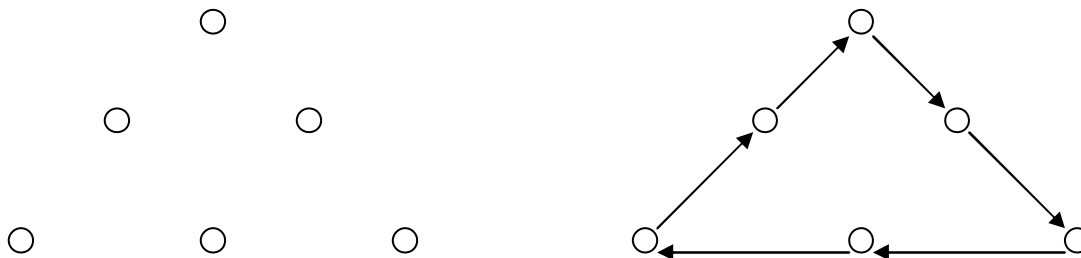
Problem (3)

$$1 + 1 = ?$$

The demonstration of the way in which the self imposed barrier can be established is given by the following pair of examples.

Problem (4)

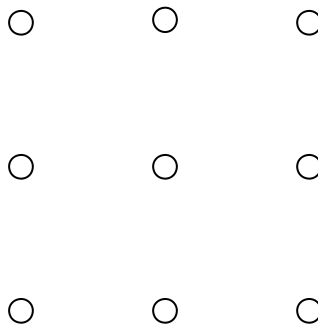
Arrange six dots in the shape of a triangle, and then join all six dots with three straight lines without taking your panicle out of paper.



Notice how simple and straight forward it is. NOW...!

Problem (5)

Consider nine dots arranged in a square. This time join all nine dots using four straight lines without taking the pencil off the paper. (Retracing a line counts as two).



- Establishing a pattern or one unique answer:

Another barrier is that the analytical man seeks to establish a pattern, or to find the one right answer. Having established the pattern, he may not be adventurous and establish other patterns that may equally well exist.

Problem (6)

Find the pattern:

$$\begin{array}{c} \underline{A \quad \quad \quad E} \\ B \quad C \quad D \end{array}$$



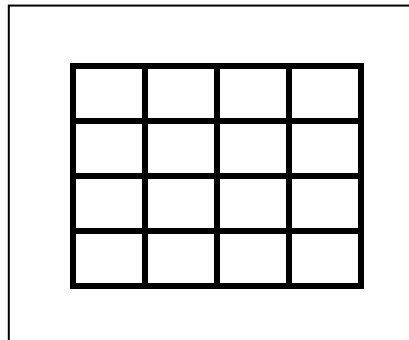
Having established a pattern, whether complete or uncertain, the analytical person sticks with it, and may not bother to look for other patterns. The creative person, on the other hand, may deliberately seek other patterns, or is happy to accept a number of patterns or even none at all. This barrier is a difficult one for the analytical person to lower. He is trained to seek an answer to a problem, and may be reluctant to try other possible answers when he has found one which works.

- Conformity, or giving the answer accepted:

The barrier of conformity follows the previous barrier in the sense that many people feel they have to conform to the patterns established by their colleagues in the work environment.

Problem (7)

Consider the following diagram, how many squares do you see?



A quick count of the squares gives the answer 16. By this time however, you may be a little suspicious and look again at the pattern. You then notice that the squares themselves form a square, making 17. In addition, the squares are set in a frame which itself is also a square, making 18. There are in fact, many more squares than this – it is possible to identify over 200!!! - .

When you face the situation in which you are involved in a discussion with older and more experienced people, you turn to say *"I will keep quite, wait and see which way the wind bellows, and then conform"*.

- Lack of effort in challenging the obvious:

Another barrier is the lack of effort in challenging the obvious solutions. This barrier is, in fact, two barriers rolled into one. When faced with problems, there is a tendency to go for the obvious answer, which is accepted without question. May be we are just happy to have found answer to the problem at all! Secondly, having an answer we avoid challenging it, even though there may be other and better answers. In general, people tend to avoid following through ideas and suggestions which depart from the accepted state of affairs.

The phrase "Why don't we?", is frequently answered in a negative way by working out the reasons why it can't be done, or it would not work. For example, when we have to



undertake a task which we do not very much like doing, we tend to "put off the evil day", giving reasons why it would be better or more appropriate to tackle it at another time. If only we would buckle down and do it, the job would be completed in far less time than the time we spent finding excuses for not doing it!!! An extreme statement of this barrier is a response known as "*automatic NO*". Any new idea is automatically rejected, almost without consideration. The reason for the rejection may be that the new idea came from a junior member, or even someone outside the project.

- *Evaluating too quickly:*

This barrier is not an easy one to remove. Everybody has a well developed capability of evaluating ideas, and this is applied almost instinctively when ideas are put forward. As with the "automatic no" response, we tend to analyze and all too often reject ideas which are slightly offbeat or new: 'that's silly', 'that won't work', 'we tried it last year and it didn't work then', are common phrases. The idea is then buried and a chance has been lost to develop new approaches. One way of understanding this barrier is to look at your hands. If the left hand represents idea production and the right hand represents idea evaluation, the two hands are not separate as in real life but are linked and linked very tightly indeed. So much so, that an idea produced is immediately evaluated and possibly killed, e.g. by the phrase, 'that won't work'. Success in creative thinking demands that the two linked hands should be separated, and that the right hand (idea evaluation) should be put on one side, for the moment. All ideas are acceptable in a creative situation, regardless of their quality. They may be good, bad, useful, useless, illegal – it does not matter, for in a creative session all ideas are acceptable. Subsequently, the evaluation hand is brought back and at that stage a strange thing happens. Some of the ideas, which would have originally been dismissed out of hand, are looked at afresh. Possibly with the comment: 'wait a minute, they may be something in that idea after all'. The ideas are given a chance to develop and not rejected too quickly. So evaluation has no part to play in a creative situation, and all ideas however wild or silly are accepted. Later, at the end of the session one or two really wild ideas are examined afresh – this is the basis of the wildest idea technique, which is a part of the brainstorming process. Linking to this barrier is the phrase, '*suspend judgment*'. In the creative situation no evaluation or judgment is allowed, either of other people's ideas or your own. Judgment is suspended until later and all ideas are accepted.

- *Fear of looking a fool:*

Fear of looking a fool is the biggest barrier of all and the most difficult to remove. It is one of the oldest barriers that it starts very early in life. The imagination and creativity injected into games played by very young children generate much laughter and enjoyment. Unfortunately, the laughter can be turned against an individual who then begins to say, '*they are laughing at me*'. Nobody likes being laughed at and, as a consequence, as we grow up we tend to avoid putting forward the silly ideas, in case we are laughed at, or thought foolish. Another phrase applicable in the creative situation is "*laugh with, not at, wild ideas*". This barrier has another aspect. People do not like going against commonly accepted views,



particularly when they are stated by prominent or notable people. There is a risk of being wrong, particularly if the new idea is radically different from common practice. Examples of this aspect abound in history, and are still found today.

- *In 1906, a scientist, Simon Newcombe, said that flying was quite impossible;*
- *President Truman in the U.S, was said to have been advised by Admiral Leahy that, 'atomic bomb won't go off, and I speak as an explosives expert';*
- *The railway builders in the early nineteenth century were advised that speed of 50 m.p.h. would cause nose bleeds, and that trains could not go through tunnels {*
- *In 1933, Lord Rutherford said, 'the energy produced by breaking down the atom is a poor kind of a thing. Anyone who expects a source of power from transformation of these atoms is talking moonshine';*
- *In 1957, the astronomer Royal, Sir Harold Spencer Jones, commenting on the news of the first satellite, said that generations would pass before man landed on the moon, and that even if he did succeed, he would have precious little chance of getting back.*

- **Stages of creative thinking:**

- 1- *Preparation.*
- 2- *Effort.*
- 3- *Incubation.*
- 4- *Insight (AHA).*
- 5- *Evaluation.*

- **Brainstorming:**

(A key to creativity)

It means:

A means of getting a large number of ideas from a group of people in a short time.

The four guidelines:

- *Suspend judgment;*
- *Free-wheel;*
- *Quantity;*
- *Cross-fertilise*

Stages of Brainstorming:



- *State the problem and discuss;*
- *Restate the problem;*
- *Select a basic restatement and write it down, the phrase "how can we.....";*
- *War-up session;*
- *Brainstorm;*
- *Wildest idea.*

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