



creativity



innovation

TOPIC OUTLINE

- Techniques to Encourage Creative Thinking
 - Brainstorming
 - Creative Problem Solving
 - Mind Mapping
 - Thinking Hats
- Barriers to Creative Thinking
- Overcoming Barriers to Creative Thinking

BRAINSTORMING

The technique

The essence

Alex Osborn
Brainstorming
(1930s)

... is “a conference technique by which a group attempts to find a solution for a specific problem by amassing all the ideas spontaneously by its members”

Rules :

- No criticism of ideas
- Go for large quantities of ideas
- Build on each other's ideas
- Encourage wild and exaggerated ideas



BRAINSTORMING

- An effective way to generate lots of ideas on a specific issue and then determine which idea – or ideas – is the best solution.
- Most effective with groups of 8-12 people and should be performed in a relaxed environment.
- Requires:
 1. A facilitator – guiding the session, encouraging participation and writing ideas down.
 2. A brainstorming space
 3. Something on which to write ideas
- Works best with a varied group of people.

BRAINSTORMING

Steps of traditional approach:

1. Define problem or issue as a creative challenge.
2. Set a time limit.
3. Participants shout out solutions to the problem while the facilitator writes them down.
4. Once the time is up, select the five ideas which are the best.
5. Write down about five criteria for judging which ideas best solve the problem.
6. Give each idea a score of 0 to 5 points depending on how well it meets each criterion. Then add up the scores.
7. The idea with the highest score will best solve the problem.

CREATIVE PROBLEM SOLVING

Osborn &
Parner's
Creative
Problem
Solving (1950s)

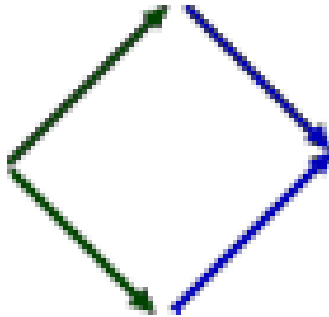
1. Mess finding (objective finding)
2. Fact finding
3. Problem finding
4. Idea finding
5. Solution finding (idea evaluation)
6. Acceptance finding (idea implementation)

Each step first involves:

1. A **Divergent** thinking phase - generates lots of ideas (facts, problem definitions, ideas, evaluation criteria, implementation strategies)
2. A **Convergent** phase - the most promising ideas are selected for further exploration.

The Osborn & Parner's Creative Problem Solving Process

OF



**Objective
Finding**

Identify Goal, Wish, Challenge

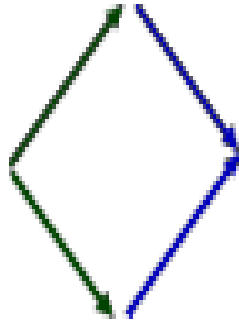
What is the goal, wish, or challenge upon which you want to work?

Questions Checklist:

- ✓ What would you like to accomplish, to achieve?
- ✓ What would you like to have?
- ✓ What would you like to do?
- ✓ What would you like to do better?
- ✓ What would you like to happen?

The Osborn & Parner's Creative Problem Solving Process

FF



Fact
Finding

Gather Data

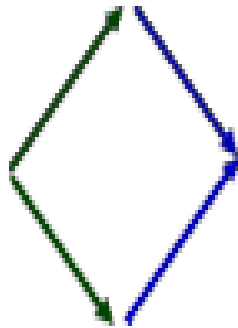
What's the situation or background? What are all the facts, questions, data, feelings that are involved

Use 5W & 1H Questions.

- ✓ Who is or should be involved?
- ✓ What is or is not happening?
- ✓ When does this or should this happen?
- ✓ Where does or doesn't this occur?
- ✓ Why does it or doesn't it happen?
- ✓ How does it or doesn't it occur?

The Osborn & Parner's Creative Problem Solving Process

PF



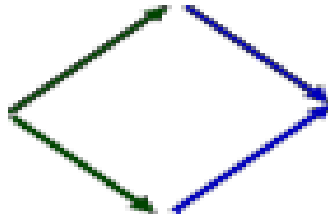
Problem
Finding

Clarify the Problem

What is the problem that really needs to be focuses on? What is the concern that really needs to be addressed?

- Listing alternative definitions of the problem.
- Begin each statement with **"In what ways might we (or I)...."**.
 - ✓ What is the real problem?
 - ✓ What is the main objective?
 - ✓ What do you really want to accomplish?
 - ✓ Whay do I want to do this?

IF



**Idea
Finding**

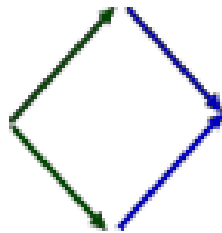
Generate Ideas

What are all the possible solutions for how to solve the problem?

The divergent-thinking, brainstorming stage.

Ideas are freely proposed without criticism or evaluation, for each of the problem definitions accepted in the second stage.

SF



**Solution
Finding**

Select & Strengthen Solutions

How can you strengthen the solution? How can you select the solutions to know which one will work best?

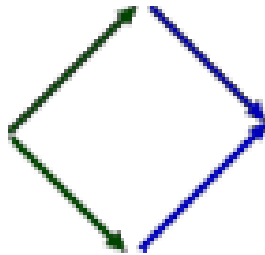
Three related steps:

1. Criteria for evaluation listed
2. The ideas are evaluated (evaluation matrix is useful)
3. One / more of the best ideas are selected

Criteria might include:

- ✓ Will it work?
- ✓ Is it legal?
- ✓ Are the materials and technology available?
- ✓ Are the costs acceptable?
- ✓ Will the public accept it?
- ✓ Will higher-level administrators accept it?

AF



Acceptance
Finding

Plan for Action

- Ways to get the ideas into action.
- May involved creating an action plan, which is a plan containing specific step to be taken and a timetable for taking them.

What are all the action steps that need to take place in order to implement your solution?

MIND MAPPING

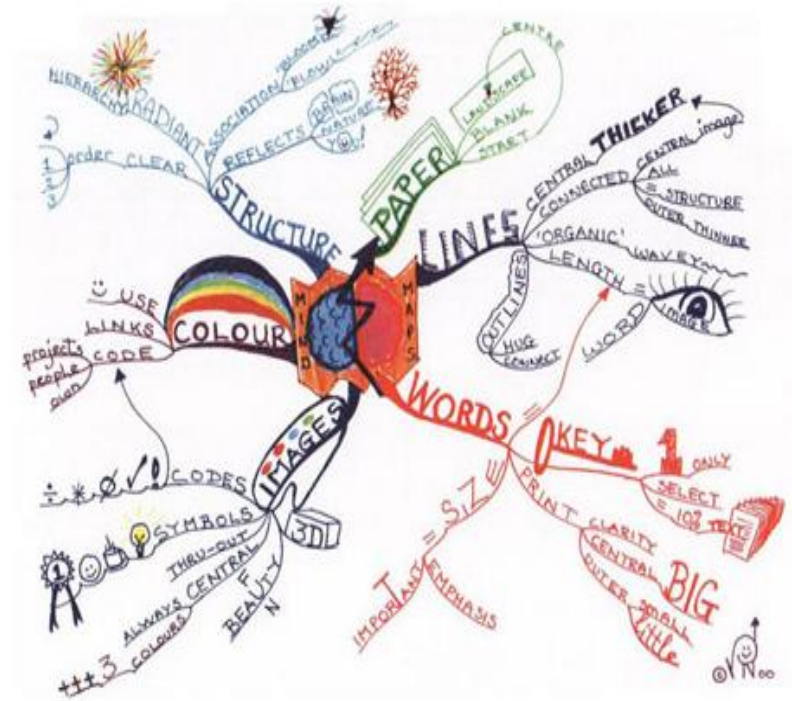
Tony Buzan's
Mind Mapping
(1960s)

... a diagram used to represent words, ideas, tasks or other items linked to and arranged radially around a central key word or idea; used to generate, visualise, structure and classify ideas. Connections are presented in a nonlinear graphical manner.

Benefits

A tool that helps:

1. structuring information
2. to better analyze
3. to better comprehend
4. to better synthesize
5. to better recall
6. generating new ideas.



MIND MAPPING

How to Draw a Mind Map

1. **Start** in the middle of a blank page, writing or drawing the idea.
2. **Develop** the related subtopics around this central topic, connecting each of them to the center with a line.
3. **Repeat** the same process for the subtopics.

Recommendations:

- ✓ Use colours, drawings and symbols copiously.
- ✓ Keep the topics labels as short as possible.
- ✓ Vary text size, colour and alignment.

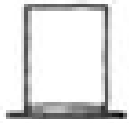
SIX THINKING HATS

De Bono's Six Thinking Hats (1980s) To help take a different perspective and avoid a standard way of thinking this approach asks team members to consider a problem from a particular perspective.

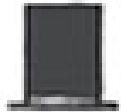
- The six hats represent six modes of thinking and are directions to think rather than labels for thinking.
- The hats are used proactively rather than reactively.
- Encourages Parallel Thinking:
 - ✓ everyone explores all sides of an issue at the same time.
 - ✓ confrontation is replaced by a cooperative exploration
 - ✓ encourages the sharing of information
 - ✓ reduces argument
 - ✓ allows talkers to think and thinkers to talk.

SIX THINKING HATS

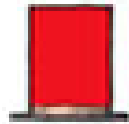
Each of the Six Thinking Hats represents a different direction or type of thinking, which is identified by a colour:



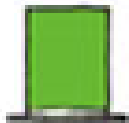
White Hat Thinking: Data, facts, information known or needed.



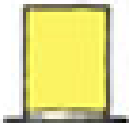
Black Hat Thinking: Difficulties, potential problems. Why something may not work.



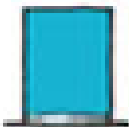
Red Hat Thinking: Feelings, hunches, gut instinct, and intuition.



Green Hat Thinking: Creativity - possibilities, alternatives, solutions, new ideas.



Yellow Hat Thinking: Values and benefits. Why something may work.



Blue Hat Thinking: Manage the thinking process, focus, next steps, action plans.

SIX THINKING HATS

Benefits:

1. *Save time by providing a framework to:*

- Participate in productive “thinking together meetings” that are focused on delivering necessary results.
- Minimize personality conflicts.

2. *Improve performance by providing a framework to:*

- Make better decisions based on thorough and clear thinking.
- Be better prepared to implement change.
- See all sides of a situation to avoid being blindsided.

3. *Increase creative and innovative performance by providing a framework to:*

- Consider a broader range of possible solutions and selecting the one that best meets the business need.

BARRIERS TO CREATIVE THINKING

1. **Negative Attitude**

- Tendency to focus on the negative aspects of problems and expend energy on worry.

2. **Fear of Failure**

- Fear of looking foolish or being laughed at.

3. **Executive Stress**

- The over-stressed person finds it difficult to think objectively at all.

4. **Following Rules**

- Tendency to conform to accepted patterns of belief or thought.

5. **Making Assumptions**

- Many both conscious and unconscious assumptions restrict creative thinking.

6. **Over-Reliance on Logic**

- Logical or analytical thinking – the step-by-step approach – excludes imagination, intuition, feeling or humour.

OVERCOMING BARRIERS TO CREATIVE THINKING

1. **Necessity**

- Realize that being creative is a necessity, thus should always be motivated.

2. **Be positive**

- Have an optimistic attitude.

3. **Get the data**

- Do some research and make the idea as solid as possible so that it becomes more difficult for someone to reject it.

4. **Change the perception**

- Look at a problem from a variety of perspectives.

5. **Think in sequence**

- Accept all ideas at first and *then* sort out the good ones.

6. **Eliminate distractions**

- Uninterrupted concentration is important for generating new ideas.