

CREATIVE THINKING

Practical Creativity

Fostering Creative Thinking in the
Classroom



CENTER FOR LEARNING & TEACHING



Objectives for this workshop

- Disclaimer and a story
- Defining creativity
- Exploring “deliberate creativity”
- Creative thinking models
- Activity
- Applications

WHAT IS CREATIVITY?

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CAN WE DEFINE IT?

Creativity... Fact or Fiction?

FICTION

- Creativity is the result of innate talent
- Creativity is mainly associated with the arts
- Children are more creative than adults
- Creativity is the same as originality
- Creativity cannot be taught

FACT

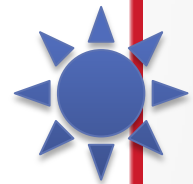
- Creativity is the result of hard work
- Creativity cuts across all areas of life
- True creative achievement requires years of experience
- Creativity is the intersection of novelty and usefulness
- Creativity can be enhanced through teaching and training


Creativity is often defined as...

- “Creative thinking is **both** the capacity to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation, divergent thinking, and risk taking”
- Novel, Useful
- Emerging as a discipline???
- A 21st century skill

Creativity for the 21st Century workforce

	Business/ Employers	School Superintendents
Problem-identification or articulation	1	9
Ability to identify new patterns of behavior or new combination of actions	2	3
Integration of knowledge across different disciplines	3	2
Ability to originate new ideas	4	6
Comfort with the notion of “no right answer”	5	11
Fundamental curiosity	6	10
Originality and inventiveness in work	7	4
Problem-solving	8	1
Ability to take risks	9 (t)	8
Tolerance of ambiguity	9 (t)	7
Ability to communicate new ideas to others	11	5





“We need people who think with the creative side of their brains—people who have played in a band, who have painted, been involved in the community as volunteers. It enhances symbiotic thinking capabilities, not always thinking in the same paradigm, learning how to kick-start a new idea, or how to get a job done better, less expensively.”

Annette Byrd, Manager, Healthy Work Environment, GlaxoSmithKline, *Are They Really Ready To Work*, 2006

Creativity can be taught!

http://www.artsusa.org/pdf/information_services/research/policy_roundtable/ready_to_innovate.pdf

Deliberate Creativity

...

WHY?

School Kills Creativity?

- VIDEO:
<http://www.youtube.com/watch?v=zDZFcDGpL4U>
- Our schools are often hostile to ideas. Our tests ask students to come up with one right answer, and the curriculum, pegged to tests, penalizes the creative students rather than reward him/her for the unexpected but thoughtful-or even brilliant response (*Tough Choices for Tough Times* 2008)

Yes, but...and other idea killers

- Ignorance
- Extreme Pessimism
- Unreasonable Haste
- Direct Interruption
- Getting Personal
- Unthinking

How to destroy a potentially great brainstorming session or idea but just being present.

Creativity with Purpose

- We are ALL creative
- Students may brand themselves unknowingly
- Creative Ideas sometimes happen by accident
- BUT...how do we turn great ideas into a useful and novel idea?
- IMPLEMENTATION?

Start with Yes, and...

...

Creative Thinking Models Deliberate Creativity

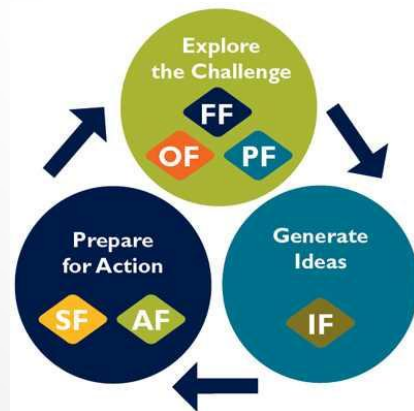
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How can these be integrated into your teaching?

Creative Thinking Models

CREATIVE PROBLEM SOLVING (Osborne)

- Creative Problem Solving (CPS) is a structured process for solving problems or finding opportunities
- Divergent and Convergent Thinking

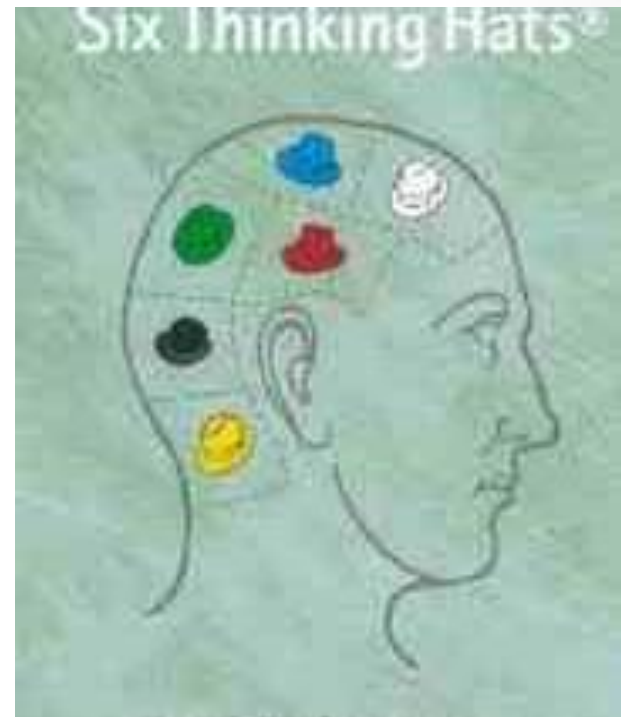
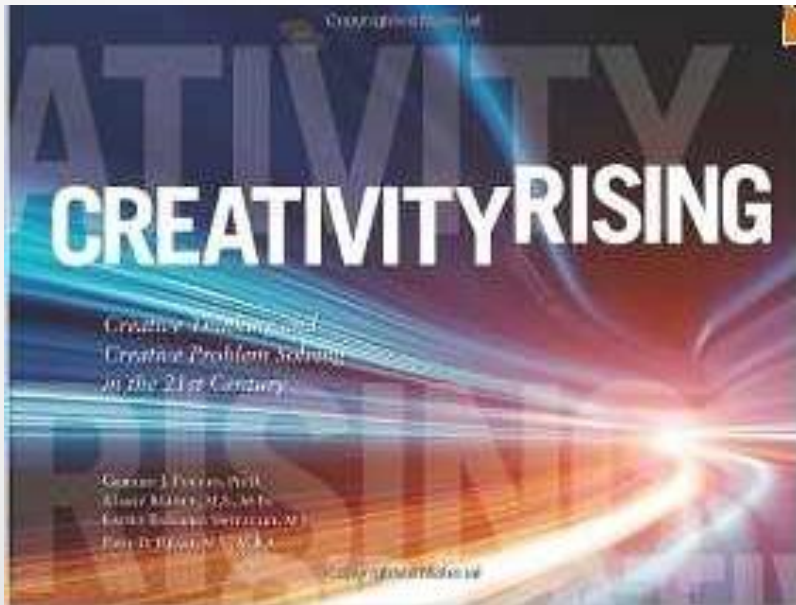


6 Thinking Hats (DeBono)

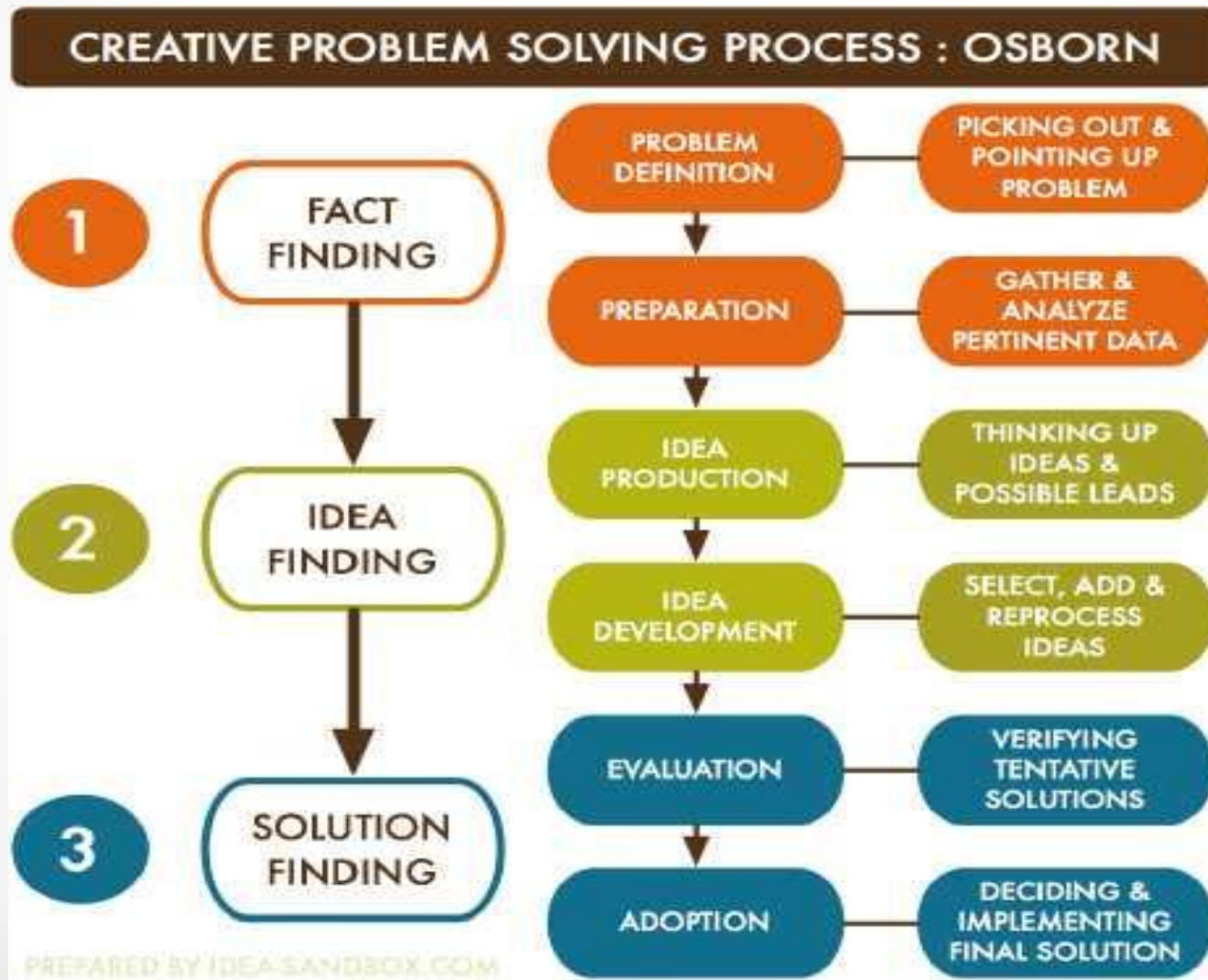
- Tool for parallel thinking



Reading Guides



Creative Problem Solving CPS





Clarification



Ideation

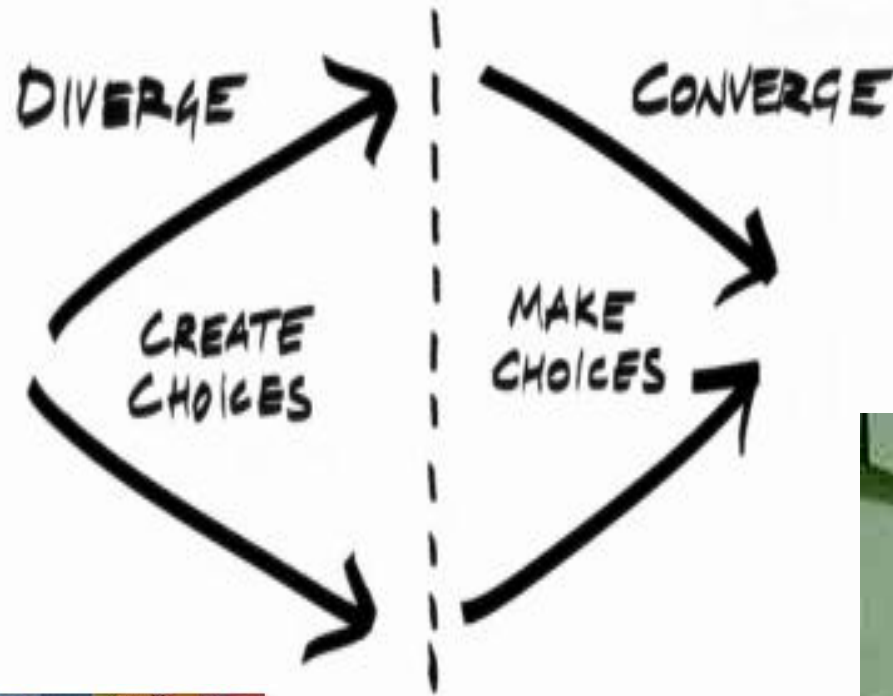


Development



Implementation

Brainstorming “Ideation”



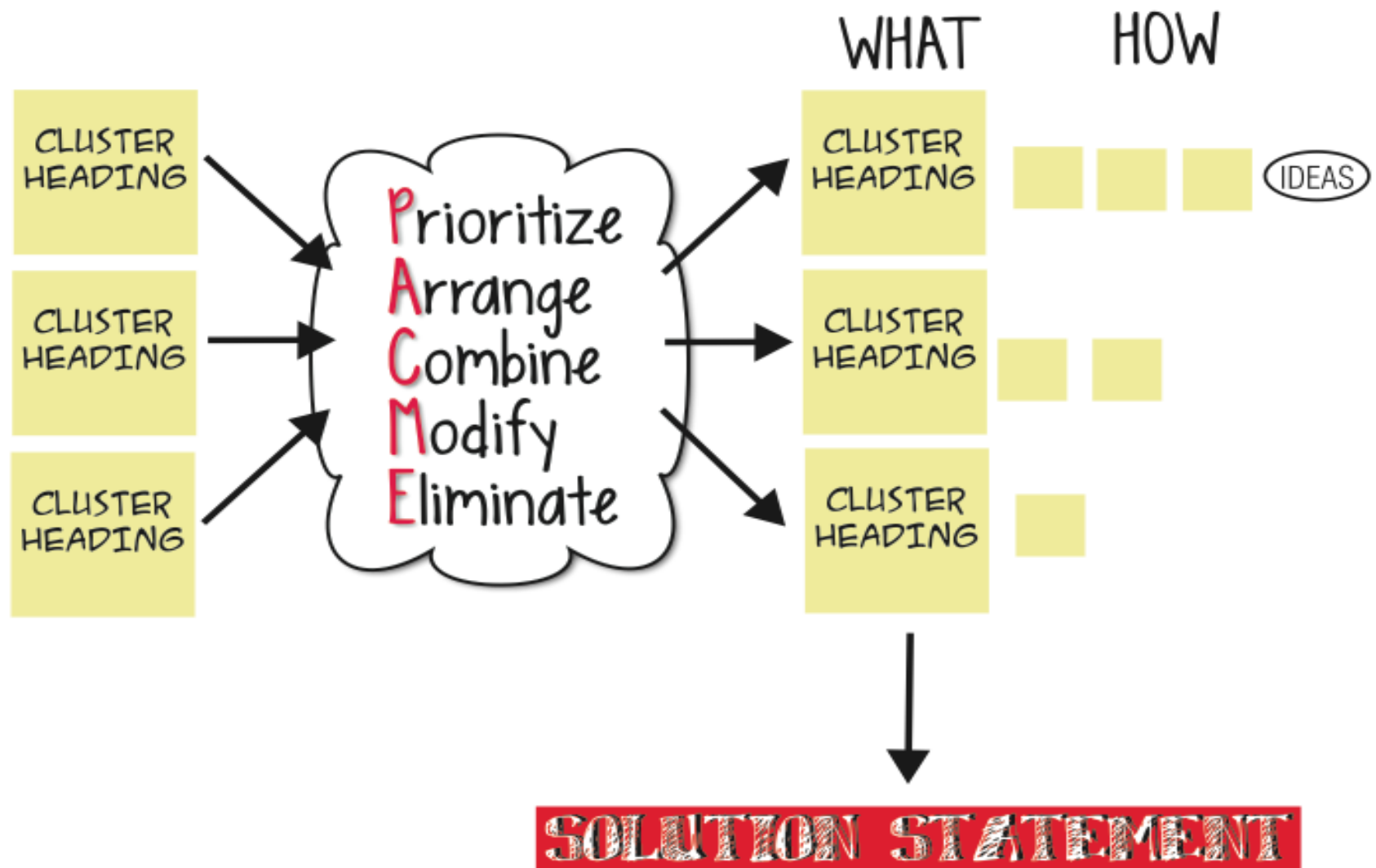
Principles of Divergent Thinking

- Suspend judgment
- Go for quantity of ideas
- Make connections
- Seek wild and usual ideas

Principles of Convergent Thinking

- Judge Affirmatively
- Check your objectives
- Refine and Cluster ideas; stay focused
- Keep Novelty Alive

TOOL: PACME



TOOL: SCAMPER



SUBSTITUTE

What process/person/materials can you substitute?



COMBINE

How can you combine parts/people/processes?



ADAPT

What else is like this?



MODIFY

What can you add/subtract/modify/change?



PUT TO OTHER USES

What other uses might there be for this?



ELIMINATE

What can you get rid of/sacrifice/omit?



REARRANGE

What other patterns/arrangements can you try?



More New Ideas!

Identify a Problem and Practice



Clarification



Ideation



Development



Implementation

DeBono and Creativity

- “The biggest problem is not climate change or overpopulation, the biggest problem is poor thinking”
- “The quality of our thinking will determine the quality of our future”

Thinking

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[http://www.youtube.com/watch?v=HAE1SVeRoig&feature=r
elated](http://www.youtube.com/watch?v=HAE1SVeRoig&feature=related)

Intelligence and thinking; re-thinking creativity

1. Everyone is creative in some way
2. Intelligence is NOT the same as thinking
3. Highly intelligent people can be poor thinkers
4. Creative skills can be learned
5. People of limited intelligence can learn to think well
6. The trained thinker has the advantage
7. Creativity requires structure
8. Thinking is the operating skill with which we use our intelligence
9. Thinking skills can be developed and improved

Intelligence and thinking

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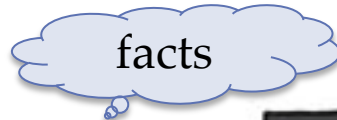
6 Thinking Hats

The Six Thinking Hats



The White Hat

White Hat thinking focuses on data, facts, information known or needed.



The Red Hat

Red Hat thinking focuses on feelings, hunches, gut instinct, and intuition.



The Yellow Hat

Yellow Hat thinking focuses on values and benefits. Why something may work.



The Black Hat

Black Hat thinking focuses on difficulties, potential problems. Why something may not work.



The Green Hat

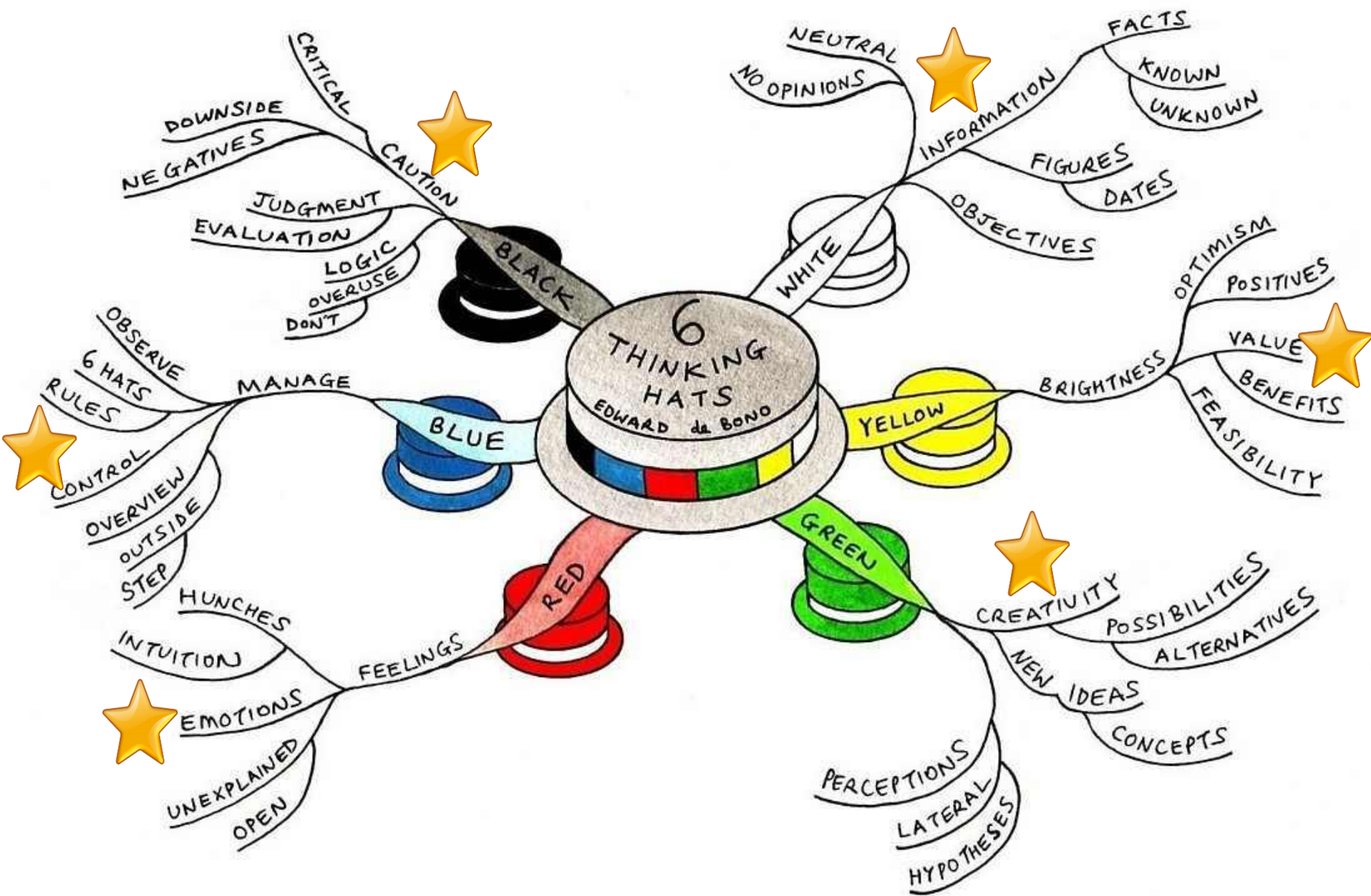
Green Hat thinking focuses on creativity: possibilities, alternatives, solutions, new ideas.



The Blue Hat

Blue Hat thinking focuses on manage the thinking process, focus, next steps, action plans.





White Hat

Facts

- Details
- Information gathering
- What do we need?
Where can we get it?

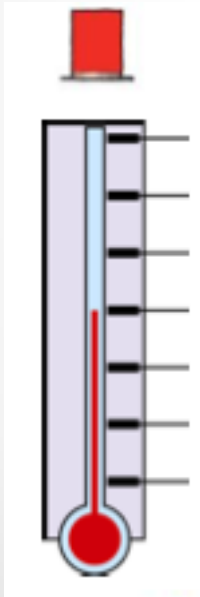


Red Hat

Intuition

Emotions

Hunches...



Yellow Hat

OPTIMISM

- Benefits?
- Positives?
- Can it work?



Black Hat

CAUTION

- Difficulties
- Drawbacks
- Risks
- problems



Green Hat

CREATIVITY



Blue Hat

Thinking about thinking

- Organizing
- Filtering
- Optimizing



SEQUENCING HATS



SEQUENCING HATS



SEQUENCING HATS



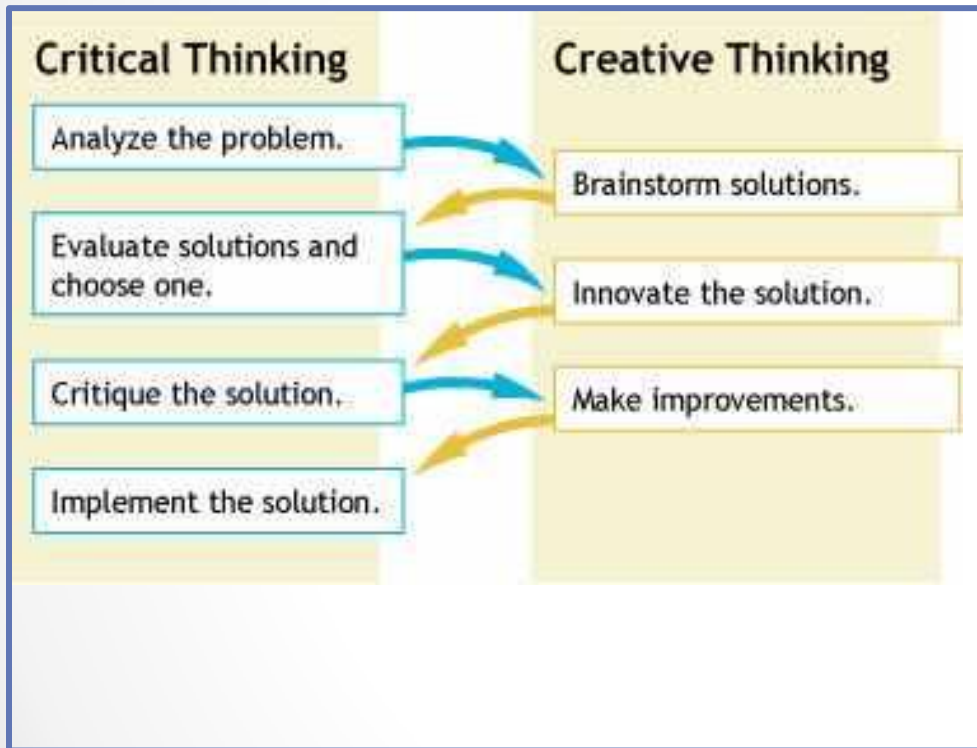
PARALLEL THINKING

- The 6 hats method replaces adversarial thinking with parallel thinking
- Allows people to switch thinking modes
- Separates out thinking
- Separates ego from performance
- Explores subject IN PARALLEL
- Trigger the next process...
- Collaborative thinking

Key points

- Six types of thinking
- Represented by 6 hats with
- 6 colors
- NOT CATEGORIES
- Each thinker SHOULD BE ABLE TO USE ALL 6 HATS

Critical Thinking?



Breathing in: Critical Thinking
Breathing out: Creative Thinking

Activity

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Plan a sequence for

- Idea generation
- Strategic plan
- Process improvement
- Problem solving session
- Planning an event
- Planning a debate
- Other...

Use the 6 thinking hats handout

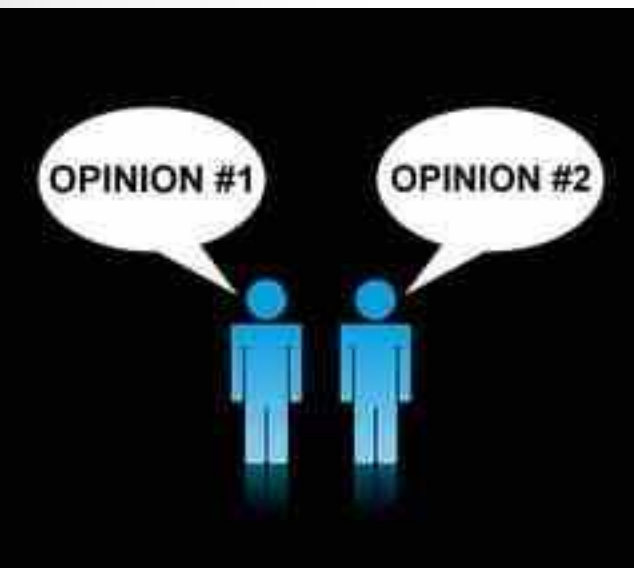
- “Should marriage licenses be renewed every 5 years?”



Applications in the Classroom

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PROBLEM SOLVING



Any Ideas?

CREDITS AND RESOURCES

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Some Resources

- CREATIVE PROBLEM SOLVING
http://1.1.1.2/bmi/www.idea-sandbox.com/blog/blog_images/cps_osborn.jpg
- Creative Problem Solving Osborne-Parnes
- CREATIVE PROBLEM SOLVING
http://1.1.1.4/bmi/www.creativeeducationfoundation.org/~creat155/sites/default/files/images/cps_process.jpg
- What creativity implies: American Association of School Administrators and Americans for the Arts
http://www.artsusa.org/pdf/information_services/research/policy_roundtable/ready_to_innovate.pdf
- Creativity Rising: Creative Thinking and Creative Problem Solving in the 21st century. ICSC Press International center for creative studies, Buffalo NY
- Edward deBono: Six Thinking hats