

## Creative Thinking Skills and State Standards: An Oxymoron?

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## Creative Thinking Skills

- ▣ SCAMPER
- ▣ Talents Unlimited
- ▣ Creative Problem Solving
- ▣ DeBono’s Six Thinking Hats
- ▣ Synectics
- ▣ Creative Dramatics
- ▣ What else???



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## Creativity: Cognitive Abilities

- ▣ fluency
- ▣ flexibility
- ▣ originality
- ▣ elaboration
- ▣ transformation
- ▣ sensitivity to problems...



## Creativity: Cognitive Abilities

- ▣ able to define problems
- ▣ visualization, imagination
- ▣ analogical/metaphorical thinking
- ▣ able to predict outcomes, consequences...



## SCAMPER

- ▣ Substitute
- ▣ Combine
- ▣ Adapt
- ▣ Modify, Magnify, Minify
- ▣ Put to other uses
- ▣ Eliminate
- ▣ Reverse, Rearrange



## Talents Unlimited

- ▣ Productive Thinking
- ▣ Decision-Making
- ▣ Planning
- ▣ Forecasting
  - ▣ Causes
  - ▣ Effects
- ▣ Communication

Academic



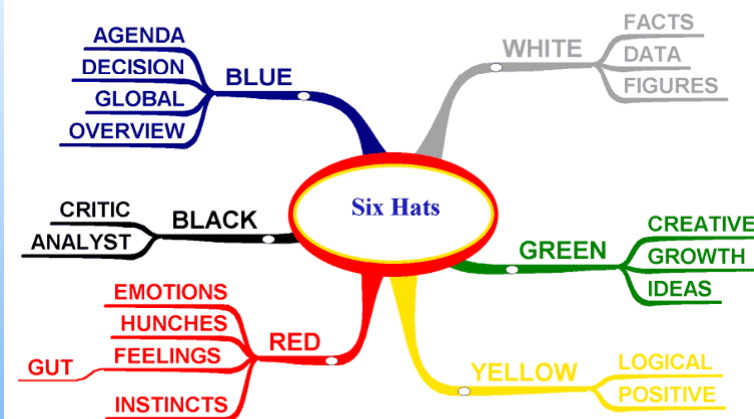
## Creative Process: CPS

- Fact-finding
  - Who did what, when, where, why, and how?
- Problem-finding
  - “In what ways might we...?”
  - “What is the real problem?”
  - “Why do I want to do this?”
- Idea-finding
  - brainstorming
- Solution-finding
  - list criteria for evaluation
  - evaluate ideas
  - select one or more of the best ideas



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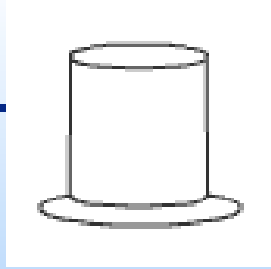
### Summary of Edward de Bono's Six Thinking Hats



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## White Hat

- ▣ What information do we have?
- ▣ What information do we need?
- ▣ What information is missing?
- ▣ What questions do we need to ask?
- ▣ How are we going to get the information we need?



Hard ↔ Soft



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## Red Hat

- ▣ Feelings, emotions, intuition, hunches, impressions, intellectual feelings.
- ▣ The opposite of neutral, objective information.
- ▣ No need to justify.
- ▣ No need to give reasons or the basis



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## Black Hat

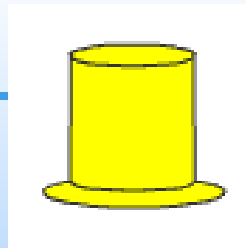


***Risks, dangers, obstacles, potential problems, and the downside of a suggestion.***

- ▣ Assessment: Should we proceed with this suggestion?
- ▣ Design Process: What are the weaknesses that we need to overcome?
- ▣ Risks and Potential Problems in the Future: What may go wrong if we implement this suggestion?

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## Yellow Hat



- ▣ Speculative-Positive
  - ▣ Positive thinking.
  - ▣ Yellow is for sunshine and brightness.
  - ▣ Optimism.
  - ▣ Focus on benefit.
  - ▣ Constructive thinking and making things happen.

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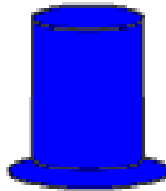
## Green Hat



- Creative Thinking
  - New ideas, new concepts, and new perceptions.
  - The deliberative creation of new ideas.
  - Alternatives and more alternatives.
  - Change.
  - New approaches to problems.

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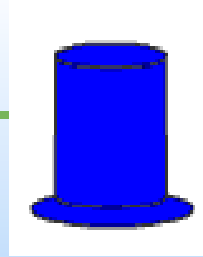
## Blue Hat



- Control of Thinking
  - Thinking about thinking.
  - Instructions for thinking.
  - The organization of thinking.
  - Control of the other hats.
- Focus
  - Asking the right questions.
  - Defining the problem.
  - Setting the thinking tasks.

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## Blue Hat



- Program Design
  - Step by step.
  - Software for thinking.
  - Choreography.
- Summaries and Conclusions
  - Observation and overview.
  - Comment.
  - Summaries, conclusions, harvesting, and reports.
- Control and Monitoring
  - The chairperson.
  - Discipline and focus.
  - Who is in charge?

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## Synectics

- Making the familiar strange and making the strange familiar.
  - Personal analogy
  - Direct analogy
  - Compressed conflicts



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## Uses of Synectics

- To enhance critical thinking
  - List attributes
  - Make comparisons
- To enhance creativity
  - See things in a new way
  - Generate alternatives
  - To enhance writing
  - To enhance problem solving abilities



## Personal Analogy

- Interview Summer: Tell the class that they are summer. Then ask questions like the following:
  - Who is your best friend, Summer?
  - What are you afraid of?
  - What do you do for fun?
- You are preparing the students to use personifications--I am summer, I play tag with the noontime shadows.



## Direct Analogy

- An automobile wheel in rotation is like...
  - The cutter on a can opener.
  - The rotor of a helicopter.
  - The orbit of Mars.
  - A spinning seed pod.
  - A hoop snake.



## Direct Analogy

- How is laughter like a smudge of peanut butter?
- How is a coffee pot like losing your temper?
- Which is louder? Having the attention of a crowd of people? Being ignored?



## Synecotics: Compressed Conflicts

- Two-word descriptions of an object where the words seem to be opposites or contradict each other.
  - Life-saving destroyer
  - Nourishing flame
  - Safe attack



## Symbolic Analogy: Compressed Conflicts

- What is described by the terms wickedly delicious? Delicate armor? Silent storm?



## Symbolic Analogy: Compressed Conflicts

- Have the class give examples of things that share both characteristics and explain why and what causes the tension. Then have them choose a word that describes summer, like hot (burning, flaming, steamy). Then choose an antonym for hot, like cold. Change the form into a noun--coolness. Then brainstorm other synonyms for coolness, like ice, snow, frigidity, etc. Then randomly combine a word from list 1 with one from list 2 like steamy ice. If that were the name of a book, what would it be about?



## Stretching exercises

- How is a beaver chewing on a log like a typewriter?
- Which is softer-a whisper or a kitten's fur?
- Imagine that you are a spider who is trying to spin a web on a rainy, stormy day. **BE THE THING!** As the spider, what does the storm do to you and how do you feel about it?
- Delicate armor describes...
- An example of repulsive attraction is...



## English: Grade 2 (Virginia SOLs)

- 2.1 The student will demonstrate an understanding of oral language structure.
  - Create oral stories to share with others.
  - Create and participate in oral dramatic activities.
  - Use correct verb tenses in oral communication.
  - Use increasingly complex sentence structures in oral communication.
- 2.8 The student will read and demonstrate comprehension of fiction and nonfiction.
  - Make predictions about content.
  - Read to confirm predictions.
  - Describe characters, setting, and important events in fiction and poetry.



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## Mathematics (FL: K-6, #8, I I)

### 8. Knowledge of Measurement:

- Evaluate how a change in length, width, height, or radius affects perimeter, circumference, area, surface area, or volume.

### I I. Knowledge of data analysis and probability:

- Make accurate predictions and draw conclusions from data.



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## Social Science (VA SOLs)

- USII.6 The student will demonstrate knowledge of the major causes and effects of American involvement in World War II by
  - identifying the causes and events that led to American involvement in the war, including the attack on Pearl Harbor;



## Your Turn...

- Choose one of the standards in your handout and apply one or more of the creative thinking skills...do a “think-pair-share” with your neighbor.

