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???
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
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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

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

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.
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?

Yellow Hat

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

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

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.
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?

Synectics

- Making the familiar strange and making the strange familiar.
- Personal analogy
- Direct analogy
- Compressed conflicts
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?
**Synectics: 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, story 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.

Mathematics (FL: K-6, #8, 11)

8. Knowledge of Measurement:
- Evaluate how a change in length, width, height, or radius affects perimeter, circumference, area, surface area, or volume.

11. Knowledge of data analysis and probability:
- Make accurate predictions and draw conclusions from data.
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.