Promoting Creative Thinking in the Content Areas

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“Thinking is the hardest work there is, which is the probable reason why so few engage in it.”

~ HENRY FORD
Admit Slips – Establishing a Purpose for Thinking
Before Class Begins
Creativity is…

• A process
• Achievement of thought
• The ability to create something new from already existing information
• Having or showing imagination and artistic or intellectual inventiveness
• Stimulating the imagination and inventive powers
• The tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems
What is Creativity?

Personality Traits:
* Openness to experience
* Risk-Taking
* Non-Conforming
* Independent
* Confident

Communication Capacity

High Level Convergent & Divergent Thinking Processes

In-depth Knowledge in a Domain of Interest

Personal Motivation & Passion

(Van Tassell-Baska, 2008)
More Thinking on Creativity

- The creative personality
- The interplay with intelligence, domain-specific expertise, and personal motivation
- The creative process
- The creative environment
- Creative strategies to enhance and nurture creative thinking
- Creative products to illustrate the creative process and the learning it encompasses

(Van Tassell-Baska, 2008)
According to Paul & Elder (2005), three conditions contribute to a high level of creative thought:

- A minimal level of innate intellectual capacity (it need not be extraordinary)
- An environment that stimulates the development of that capacity
- A positive response and inner motivation of the individual
Would You Consider These Individuals to be Creative? Why? Why Not?
In 1897, Marie Curie began her doctoral research, focusing on a new type of ray existing on Uranium. According to Adler, from the start, her work was precise systematic and insightful…With her typical determination, Marie set out to prove the existence of the new element or elements. Over time, and with great effort, she was able to extract minute quantities of two new, intensely radioactive elements…It meant three years of exhausting labor in an unheated warehouse, stirring huge vats of boiling chemicals with a heavy iron paddle – then painstakingly crystalizing and re-crystallizing the solutions. “I would be broken with fatigue at the day’s end,” she said. Marie Curie kept her place in the forefront of the field, and she became the first woman to receive the Nobel Prize.
According to Funk and Wagnall’s New Encyclopedia (1986), at the age of 13, Michelangelo was placed by his father in the workshop of the painter Domenico Chirlandaio. After about two years, Michelangelo went on to study at the sculpture school in the Medici gardens. In order to prepare to paint the Sistine Chapel ceiling, he drew numerous figure studies and cartoons, devising scores of figure types and poses.
Creative and critical thinking are intimately related, but what are their differences?
## Differences Between Creative & Critical Thinking

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<tr>
<th>CREATIVE THINKING is...</th>
<th>CRITICAL THINKING is...</th>
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<tr>
<td>- Thinking that diverges from a single thought or entity</td>
<td>- Thinking that converges on a single thought or entity</td>
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<td>- The ability to generate, synthesize, find alternatives, adapt, substitute and elaborate</td>
<td>- The ability to <em>organize</em>, <em>analyze</em> or <em>evaluate</em> information</td>
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<td>- These may be broken down into parts and taught explicitly as thinking skills.</td>
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Ideas to Promote Creative Thinking
Taba Model: Thinking Through a Concept

- Brainstorm 25 examples of change.
- Categorize your examples.
- Brainstorm 5-6 examples of things that don’t change.
- What generalizations can you draw about the concept of change?
- Describe and illustrate an important change in your life. How does it reflect the generalizations you have derived?
- Apply the concept of change to your understanding of the following disciplines: science, math, art, history.
Conceptual Thinking:
Exploring the Concept of “Systems”

- Create an aquarium that illustrates how it is a system. What are its elements, interactions, boundaries, inputs and outputs?
- How do systems interact? What is the relationship among transportation, economic, and political systems? Among science, technology, and society? Illustrate in a diagram.
- How can terrorism be viewed as a system? Create a systems model.
In Shape Thinking

- WHAT’ S CIRCLING IN YOUR MIND?
- WHAT IS SQUARING WITH YOUR BELIEFS?
- WHAT IMPORTANT POINTS WERE MADE?
In Shape Thinking

Please reflect about each question below and respond using the symbols as guides or organizers for your thinking.

What is circling in your mind about gifted education as you read Ford’s article?

What is squaring with your beliefs as you read the article?

What important points were made in Ford’s article?
ACTIVATE SCHEMA BY CREATING A GRAPHIC REPRESENTATION OF A TOPIC/CONCEPT BEFORE, DURING, AND/OR AFTER INSTRUCTION.
Art Analysis

- What ideas does this painting convey to you?
- How do you respond to it?
- What/Who do you identify with in the painting?
- Create a 3-D piece that illustrates a similar theme.
Using Visual Stimuli to Promote Creativity & Reflection

- What do you see in your picture?
- What could you change in the picture that would make it more appealing to you?
- What aspect of the picture do you identify with and why?
- Create a poem, metaphor, or graphic organizer that captures the essence of your picture.

(Van Tassell-Baska, 2008)
Frozen Tableau

This is a strategy in which students create a scene and freeze the action, then discuss what is happening and their reactions to it. Using physical poses, gestures, and facial expressions, students convey the characters, action, and significance of a moment.
Frozen Tableau
“Conditions for creativity are to be puzzled; to concentrate; to accept conflict and tension; to be born everyday; to feel a sense of self.”

- ERICH FROMM
The Six Hats Model of decision making is a process for exploring different perspectives. Viewing concepts, issues and topics from various vantage points is often a good idea in strategy formation or complex decision making processes; furthermore, by witnessing the variety of perspectives on a subject allows the individual to go to a “different place” in their thinking.

De Bono, 1985
This model uses role playing to explore diverse views of a gathered group of people. In wearing a particular hat, people play roles “as if” they are taking a different perspective, thus calling upon the individual to express not only their particular view, but the emotion as well.

De Bono, 1985
Six Hats Meanings

The Six Meanings

- **White (Observer)** – facts, figures, objective, neutral, focused on information, addresses how can the needed goal be obtained
- **Yellow (Self, Other)** – positives, pluses, values, benefits, optimistic, logical positive view
- **Red (Self, Other)** – proceeds with caution, focuses on what can go wrong, judgemental, critical, negative view
- **Black (Self, Other)** – emotional, intuitive, makes decisions on hunches, presents views without explanation or justification
- **Green (Self, Other)** – creative, alternatives, new ideas, variations, modifications, possibilities
- **Blue (Observer)** – control, conductor, ring master, organize the thinking, choices, conclusions, creates steps for implementation

De Bono, 1985
Benefits of Using the Six Hats Strategy

- allow to say things without risk
- create awareness that there are multiple perspectives on an issue
- convenient mechanism for “switching gears”
- focus thinking
- lead to more creative thinking
- improve communication
- improve decision making

De Bono, 1985
Infusing Creativity into Content

- Teach creativity-relevant skills and embed them in selected content
- Encourage creative behaviors (risk-taking, openness, multiple answers)
- Teach higher order concepts that embrace creative thinking
- Develop content-based creative tasks
- Use performance-based and portfolio assessment approaches to document authentic learning
- Celebrate the process of creative thinking!
Let’s Think Creatively!

- Article, “Creative Thinking in the Classroom” by D. Hunter & D. Bosley, 2008
- Using the following methods:
  - Six Hats
  - Frozen Tableaux
You can never solve a problem on the level on which it was created.

~ ALBERT EINSTEIN