Creativity for Early Childhood Educators

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Questions from OU

1. What is creativity?
2. How important do you think environmental factors are in fostering creativity? [curt, FYI, I am emphasizing the concept of nurturing creativity--"we can develop our creative abilities in certain areas"]
3. How can I become more creative?
4. What theory of creativity do you most believe in?
5. What can teachers do for young children's creativity? How do you promote children to be creative?
6. Do you think that teachers who are not creative themselves can effectively teach students to be creative?
7. How do you incorporate creativity into the [state/national wide] standards of general subjects in schools?

Questions from OU

8. How do you deal with students who are not interested in your class? How do you encourage your students to express their creativity?
9. How do we recognize students with unique creative skills and what can we do to meet their individual needs along with the needs of the class?
10. What creative approaches in the classroom have you found to be very successful?
11. What made you be in your area of creativity?
12. Who were the most creative students you have taught? What characteristics did they have? (Rob, Josh, Matt, Lisa B., Richter, Padma, Boyd, Jeannie, etc.)
13. Who has posed as your role model throughout your life? (Alan Parsons, Albert Bandura, Al Gore)

Mathematical Insight Problems

1. Smith Family: In the Smith family, there are 7 sisters and each sister has 1 brother. If you count Mr. Smith, how many males are there in the Smith family?

• Solution: *Two (the father and the brother)*

What do these people have in common?

• Kant, Da Vinco, Rembrandt, Pound, Copernicus, Descartes, Newton, Pascal, Faraday
• All had schizophrenia

What does Google's 20 percent time policy have to do with Montessori?

Sergey Brin and Larry Page's innovation-friendly office culture (beyond the famous free food, there's the company's "20 Percent Time," which encourages engineers to spend a fifth of their time pursuing whatever projects ignite their interest) has created fertile ground for spectacular successes beyond search, including AdWords, Google News, Google Maps, Google Earth, and Gmail.

Objectives of Creative Playrooms

1. Discover the joy of learning
2. Become creative, independent learners
3. Experience, explore and experiment with the world around them
4. Create and express themselves
5. Acquire concentration and good work habits
6. Develop a positive self-image
7. Develop a sense of community and responsibility
8. Become aware of special strengths, abilities and uniqueness
9. Be courteous to others and respectful of others
10. Learn to care for equipment and share with others
11. Be independent thinkers and self-reliant.

Montessori Pedagogy

- **"Education should no longer be mostly imparting of knowledge, but must take a new path, seeking the release of human potentialities."**
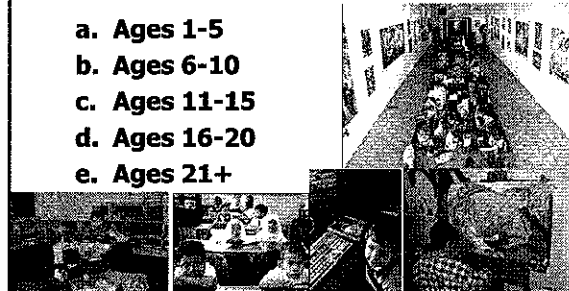*Dr. Maria Montessori*

Poll #1:
Raise your hands if you are a digital native (grew up with a computer at home).

Poll #2:
What age learners is creativity the easiest to teach at?

a. Ages 1-5
b. Ages 6-10
c. Ages 11-15
d. Ages 16-20
e. Ages 21+

What is Creativity? (per KidSource)

- Creativity has been considered in terms of process, product, or person.
- For a proper understanding of children's creativity, one must distinguish creativity from intelligence and talent.
- Most measures of children's creativity have focused on ideational fluency. Ideational fluency tasks require children to generate as many responses as they can to a particular stimulus, as is done in brainstorming.

What is Creativity? KidSource:

- For young children, the focus of creativity should remain on process: the generation of ideas. Adult acceptance of multiple ideas in a non-evaluative atmosphere will help children generate more ideas or move to the next stage of self-evaluation. As children develop the ability for self-evaluation, issues of quality and the generation of products become more important.

How Can Adults Encourage Creativity?
KidSource:
http://www.kidsource.com/kidsource/content2/Creativity_in_kids.html

- Provide an environment that allows the child to explore and play without undue restraints.
- Adapt to children's ideas rather than trying to structure the child's ideas to fit the adult's.
- Accept unusual ideas from children by suspending judgment of children's divergent problem-solving.

How Can Adults Encourage Creativity?

- Use creative problem-solving in all parts of the curriculum. Use the problems that naturally occur in everyday life.
- Allow time for the child to explore all possibilities, moving from popular to more original ideas.
- Emphasize process rather than product.

What Affects the Expression Of Creativity?

Guess What

What Affects the Expression Of Creativity?

- For young children, a non-evaluative atmosphere appears to be a critical factor in avoiding what Treffinger (1984) labels as the "right answer fixation." Through the socialization process, children move toward conformity during the elementary school years.

What Affects the Expression Of Creativity?

- The percentage of original responses in ideational fluency tasks drops from about 50% among four-year-olds to 25% during elementary school, then returns to 50% among college students (Moran et al., 1983). It is important that children be given the opportunity to express divergent thought and to find more than one route to the solution.

What Affects the Expression Of Creativity?

- Rewards or incentives for children appear to interfere with the creative process. Although rewards may not affect the number of responses on ideational fluency tasks, they seem to reduce the quality of children's responses and the flexibility of their thought. In other words, rewards reduce children's ability to shift from category to category in their responses.

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What Affects the Expression Of Creativity?

- In one case, structured instructions consisted only in the demonstration of how to put together a model. Teachers need to remember that the structure of children's responses is very subtle. Research suggests that children who appear to be creative are often involved in imaginative play, and are motivated by internal factors rather than external factors, such as rewards and incentives.

Conclusion

- Adults can encourage creativity by emphasizing the generation and expression of ideas in a non-evaluative framework and by concentrating on both divergent and convergent thinking. Adults can also try to ensure that children have the opportunity and confidence to take risks, challenge assumptions, and see things in a new way.
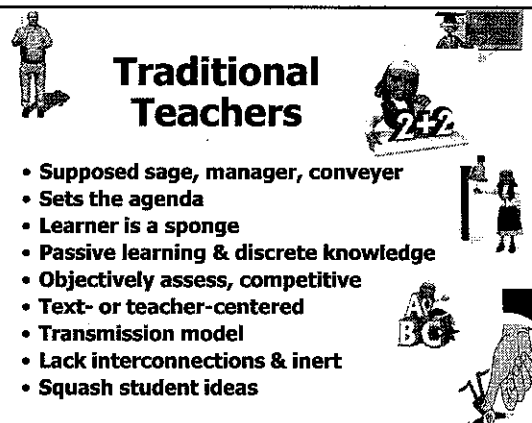
Who Creates the Environment for Creativity?

Guess Who

Traditional Teachers

- Supposed sage, manager, conveyer
- Sets the agenda
- Learner is a sponge
- Passive learning & discrete knowledge
- Objectively assess, competitive
- Text- or teacher-centered
- Transmission model
- Lack interconnections & inert
- Squash student ideas

How do cities and communities impact on creativity?

Guess

Washington Monthly Online

Never miss a single issue

May 2002

The Rise of the Creative Class

Why cities without gays and rock bands are losing the economic development race.

By Richard Florida

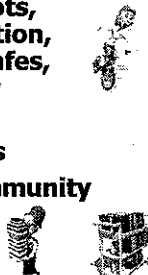San Francisco skyline

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What about Athens? Is it a creative place? What makes it cool?
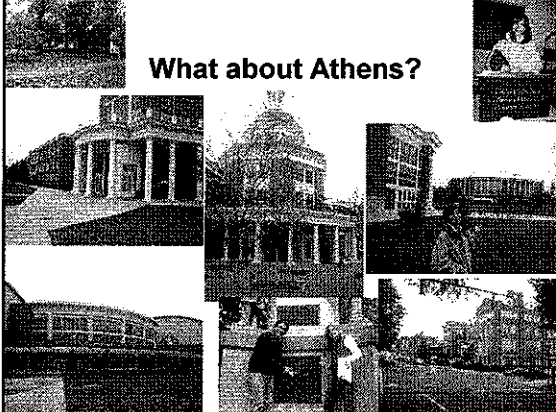

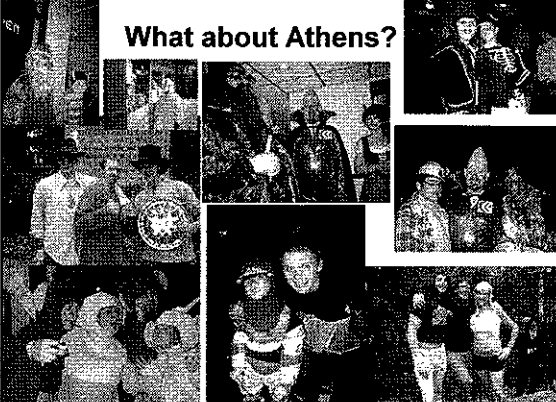## What is an idea city? Where want to live? What makes it cool?

- Culture, parks, night spots, scenery, outdoor recreation, music scene, all-night cafes, extreme sports, outdoor recreation
- Lots of job opportunities
- Diversity within the community

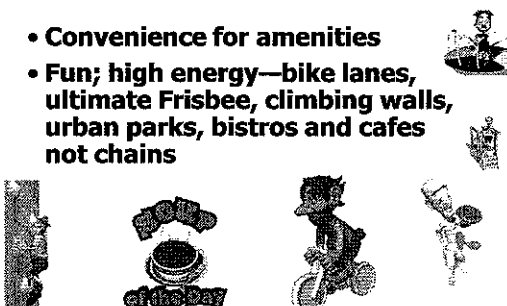---

What about Athens?

What about Athens?

What is an idea city? Where want to live? What makes it cool?

- Convenience for amenities
- Fun; high energy—bike lanes, ultimate Frisbee, climbing walls, urban parks, bistros and cafes not chains


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The Creative Class

- Values creativity, value tolerance, promote individuality, embrace diversity and differences, open to immigration, and merit
- Are active & participate, not watch sports
- Want: relax dress codes, use flexible schedules, and new work rules

The Creative Class

- Engage in work to create meaningful new forms (scientists, engineers, professors, poets, novelists, actors, entertainers, architects, analysts, think-tank researchers, artists, editors, cultural figures)
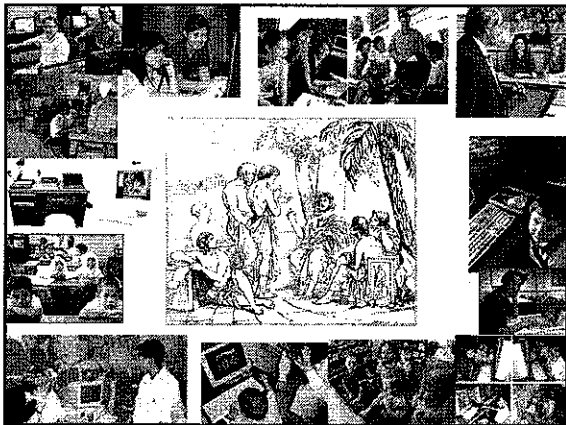
Once you have the environment determined, then you can focus on strategies!

20 Pedagogical Strategies: Creative Thinking

1. Metaphorical Thinking, Synectics
2. New Perspectives
3. Webbing, Mind Mapping
4. Just Suppose, What if?
5. Creativity Awareness
6. Creative Dramatics, Improv
7. Creative Writing and Story Telling, Forced Wrap Around, Object Obits
8. Wet Ink, Diaries, or Freewriting
9. Brainstorming, Top Ten Lists
10. Reverse Brainstorming

20 Pedagogical Strategies: Creative Thinking

11. Attribute Listing, Modification, & Transformation
12. Idea Spurring Questions, Think Sheet
13. International Future Problem Solving
14. Checkerboarding
15. Morphological Synthesis
16. Creative Role Play
17. Visualization, Imagination!
18. Simulations, Creativity License Cards, Six Hats
19. Web Safaris, Explorations, Web Link Suggestions
20. Problem- and Product-Based Learning (PBL)
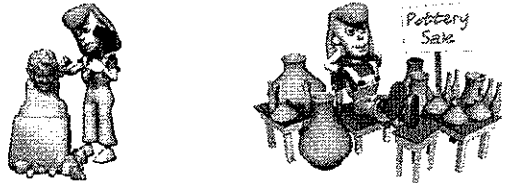
1. Metaphorical thinking

- how is my school like:
  - –a prison, a beehive, an orchestra, ghetto,
  - –expedition, garden, family, herd, artist's palette,
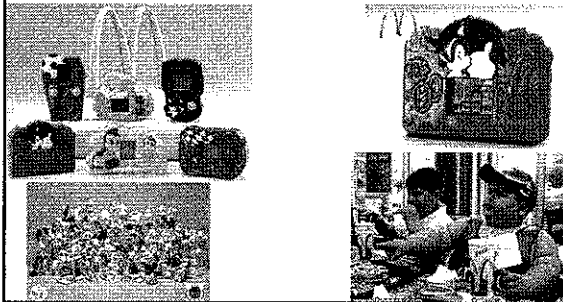 - –machine, military camp, Olympic games, hospital, theater, etc.

1. Metaphorical thinking, Analogies, ...

1. Creativity is like _____.
2. Being Creative is like _____.
3. Creativity is to ____ as...

Can young children make analogies?

How many happy meals are in Lena's closet?

1. Synectics

Combining 2 dissimilar ideas. The joining together of unrelated elements (William J. J. Gordon). One brings strange concepts into familiar areas.

Putting yourself in a situation.

Thinking of how others might solve the problem.

What is synectics?

- syn-ec·tics \ si-'nek-tiks \ n pl but usu sing in constr [perh. fr. Gk synektiktein to bring forth together (fr. syn- + ektiktein to bring forth, fr. ex- out + tiktein to beget) + E -s (as in dialectics) - more at EX·THANE]:

Creativity and Learning as Skills, Not talents (George Prince)

Safekeeping Self:
- Censors
- Makes rules
- Punishes mistakes
- Avoids wrongness
- Evaluates, is logical
- Fearful
- Avoids surprises
- Analyzes
- Guides, reassures, and supports
- Looks at consequences

Experimental Self
- Feels, plays, has fun
- Breaks rules
- Does not mind being confused or wrong
- Is intuitive, speculates
- Open to anything
- Recognizes patterns
- Imagines
- Curious
- Makes connections
- Likes surprises

How to Promote the Creativity of Young Children?

- Use children's natural creativity.
- Foster fun!
- Comfortable and friendly tone and environment
- Acceptance and trust
- Caring
- Action, movement, bodies doing something

How to Hinder the Creativity of Young Children?

Idea Squelchers!
- "It won't work"
- "Be practical. Don't be foolish."
- "Follow the rules."
- "We've never done it that way b4."
- "Let's wait and see."
- "It's too late."
- "It's not in the curriculum."

Early Childhood Practices to Foster Safekeeping and Risktaking Self

Safekeeping Behaviors   **Risktaking Behaviors?**
- Watching/monitoring
- Evaluating
- Pressuring
- Restricting Choices
- Telling what to do
- Constant competing
- Constant rewarding

- From: George Prince [mailto:loganprince@comcast.net]
  Sent: Thursday, September 13, 2007 3:22 PM
  To: Bonk, Curtis Jay
  Subject: Article
- Thanks for your interest. That was an article I wrote for the Exeter Bulletin in about 1980, and it reflected my belief that everyone is born with plenty of talent. It gets shut down by the way we are treated.

  Good luck!
  George (GeorgeMPrince.com)

George M. Prince (retired cofounder of Synectics)

- The concept of climate is far more basic to group success than we have realized. I prefer the term 'field' because it more accurately captures the wholeness, the entirety and inclusiveness of the concept. It is also gaining scientific acceptance in areas beyond quantum physics.

2. Breaking Mental Set and Shifting Perspectives

- The process of creation frequently involves a dramatic and usually instantaneous change in perception. Sometimes we all need a whack in the side of the head!
- Have students assume roles of other people, cultures, economies, genders, etc.
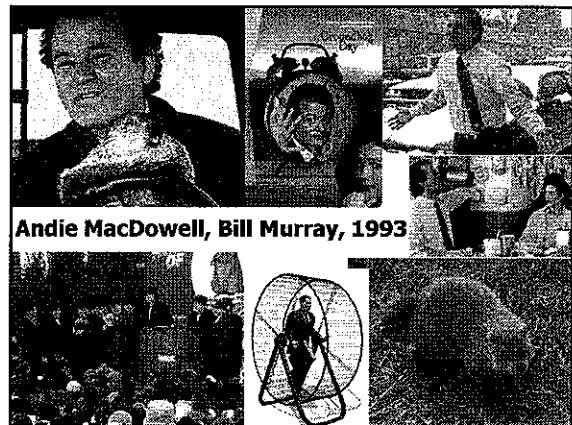
What if items were invisible?

2. Breaking Mental Set and Shifting Perspectives

- Word games; Which one is different; Nine dot problem; Flying Pig; Concealed colors.
- Analogies, Synectics, Breaking Set, Imagery, Aesthetics, etc.
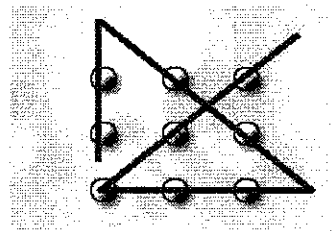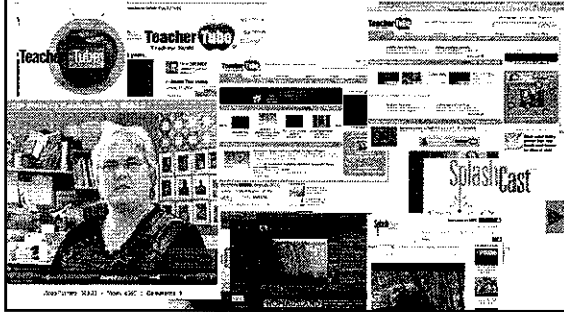
Andie MacDowell, Bill Murray, 1993

Who has seen the movie Office Space (1999)?

The 9 Dots: Draw four continuous straight lines, connecting all the dots without lifting your pencil from the paper.

Creativity in YouTube

3. Webbing

Directions: write the topic in the center and link closely related ideas or questions in the first ring of ideas. As new ideas are suggested, they are connected by a line to the related item or items.

3. Graphic Organizers and Webbing

Webbing can be used to determine:

(1) all the possible directions and activities a student or class can explore as a result of interest in a specific topic or subject

(2) all that is presently known, and

(3) knowledge interrelationships.

This technique expands awareness for relating, integrating, and organizing brainstormed ideas.

4. Just Suppose or What If

• Imagine a situation or scenario and reflect on the consequences.

• Just suppose all early elementary students in the USA had to learn Chinese and Korean since the end of the Korean War. What would school be like? What would the USA be like?

• What if everyone had access to 100,000 language tutors and associated content on nearly any language for free?

As China booms, so does Mandarin in U.S. schools
USA Today, Nov 20, 2007
Elizabeth Weise

First grade student Sebastian Rios practices tracing characters in his Mandarin Chinese class.

Teacher Sandy Sung speaking Mandarin to students Nathan Cruz, left, Sebastian Rios, second from left, and Jade Yi, second from right in the first grade classroom in the second year of a fully immersed Mandarin language program at Starr King Elementary School in San Francisco.

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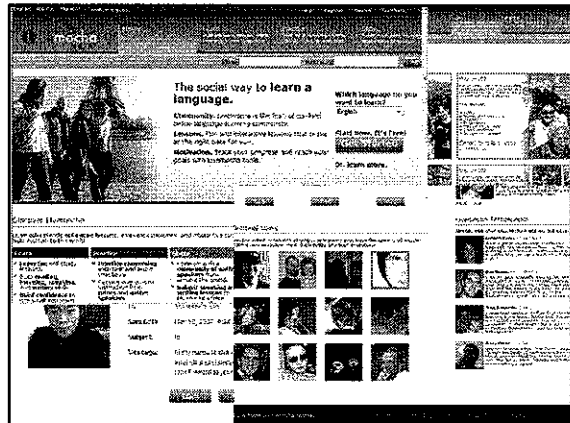
What if K-2 teachers could have free reading instruction at their fingertips? See free-Reading.net
http://free-reading.net/index.php?title=Main_Page

Free online materials could save schools billions

Letter Sound and Letter Combination Accuracy Sound Search Game
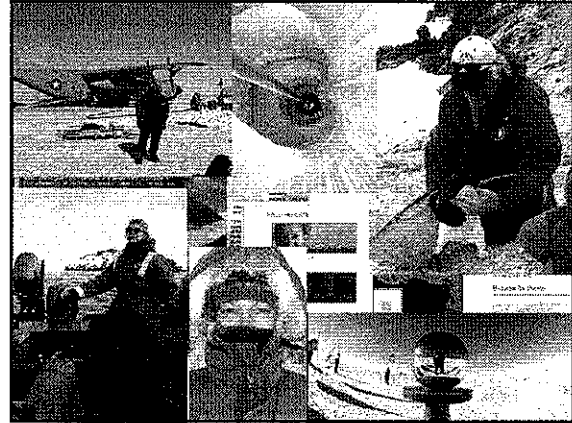
What if Google Earth was to look the other way? (then you have Google Sky) USA Today, August 22, 2007

- NASA's Hubble Space Telescope's image ofa 50-light-year-wide view of the central region of the Carina Nebula. Google Earth's 'Sky' mode uses Hubble images to give users a view of the universe.

http://earth.google.com/sky/index.html
Google Sky

What if you could go take your kids to any national park and interact with park rangers without having to drive there?

Web brings national parks closer to kids

Ranger Rachel Zimmer speaks with Syler Peralta-Ramos, a fourth-grader at Jackson Hole's Journeys School, Oct. 16, 2007, during filming of a podcast at the national park for "Tails from the Tetons," an electronic field trip.

What if every early elementary kid could have a terabyte (1,000 gigabytes or 1 trillion bytes) of data on a thumb drive by the time your graduate? (Wired Magazine, October 26, 2007 says it will be possible in a few years; research from Arizona State)

Terabyte Thumb Drives Made Possible by Nanotech Memory

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What if a laptop was as light as air?

The world's thinnest notebook.

MacBook

What if kids could get math and reading help from India?

Ramya Tadikonda works for TutorVista and tutors students online from her home in Chennai, India.

World Business

Hello, India? I Need Help With My Math

TutorVista has 600 tutors in India and 10,000 subscribers in the United States, including Kenneth Tham in Arcadia, Calif.

What if your personal in one virtual world (e.g., Second Life) could teleport to another?

Technology Review

Moving Freely between Virtual Worlds

5. Creativity Awareness: Creativity Scales

- Self-awareness of creative traits is important in promoting creativity.
- Rate yourself for creativity. What is creativity here? How did you do?

5. Creativity Awareness: Creativity Models

von Oech's
- Explorer
- Artist
- Judge
- Warrior

Slide 1

Torrance Tests of Creative Thinking—Figural and Verbal
Demonstrator

Directions: Do not begin until you are told to do so.
> Try to think of things that no one else will think of
> Try to think of as many ideas as possible
> Add details to your ideas to make them complete
> If you finish before time is up, you may continue to add details or sit quietly
> Please do not go to the next activity until told to do so.

Activity 1: Try to improve this stuffed toy rabbit so that it will be more fun to play with. You have 3 minutes.

_____
_____
_____
_____
_____
_____
_____
_____

Activity 2: Just suppose that people could transport themselves from place to place with just a wink of the eye or a twitch of the nose. What might be some things that would happen as a result? You have 3 minutes

Slide 2

Creative Behavior Inventory
0   1   2   3-4 5-6 7+

1. Received an award for acting.
2. Worked as an editor for a school or university literary publication.
3. Worked as an editor for a newspaper or similar organization.
4. Painted an original picture.
5. Designed and made your own greeting card.
6. Wrote poems (excluding school or university work).

Slide 3

Gough Personality Scale

- ___+___ Capable ___-___ Honest
- ___-___ Artificial ___+___ Intelligent
- ___+___ Clever ___-___ Well-mannered
- ___-___ Cautious ___+___ Wide interests
- ___+___ Confident ___+___ Inventive
- ___+___ Egotistical ___+___ Original
- ___-___ Commonplace ___-___ Narrow interests
- ___+___ Humorous ___+___ Reflective

Slide 4

6. Creative Dramatics, Improvisation

- Biggest/smallest thing; Holding up the roof; Favorite animal; Mirror effect; Imagine taste/smell...
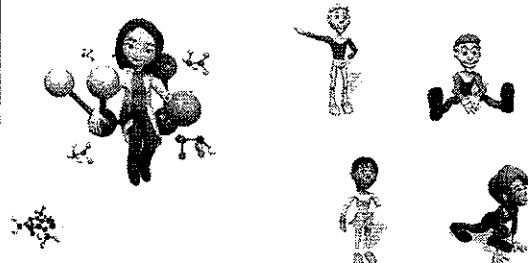
Slide 5

6. Creative Dramatics, Improvisation

More Creative Dramatics (Davis book)
- Imagine taste/smell... Ice Cubes, Puppets, Mirror effect, Ridiculous Poses, Favorite animal, People Machines, Invisible Balls.
- Imagine hear, touch, smell, tastes, stiffest/most rubbery, Angriest/happiest.

Slide 6

Creative Dramatics

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7. Creative Writing or Story Telling

a. Tell a Tall Tale:
- One person starts a story and everyone adds something to it. You might throw a ball to the person who is to add to it or the instructor might decide or the next person could just jump in. Could be done via e-mail.

7. Creative Writing or Story Telling
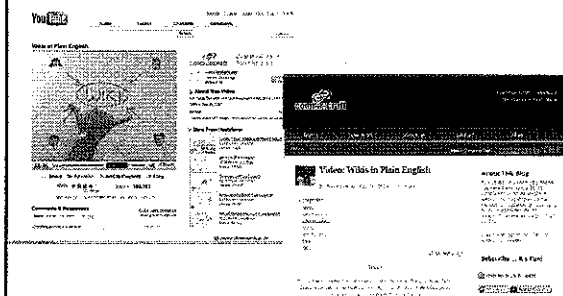
b. Forced Wrap Arounds:
- One person tells a story and it is repeated until it gets through a group or classroom (teaches generative and constructive psychology principles)

c. Object Obituary:
- Write a fictional obituary for some object that you own or were close to.

Wikis in Plain English
http://youtube.com/watch?v=-dnL00TdmLY
68,276 since May 29, 2007

Digital Storytelling

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8. Wet Ink or Freewriting

Writing without reflecting or lifting your pen for a set period of time.
- Just imagine: imagine you have created a highly active teaching situation for early childhood...What do you see? Can students wonder, question, speculate, take risks, actively listen, withhold judgment??? How is creativity fostered here? Describe environment. Physically, mentally, emotionally, etc...

9. Brainstorming

- Generating ideas to solve a particular problem, issue, situation, or concern. Here more is better and the wilder the better. The hitchhiking or piggybacking as well as combination of ideas is encouraged. However, ther no evaluation of ideas allow

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9. Brainstorming

- For example, How can we increase the use of active learning ideas in college settings?

10. Reverse Brainstorming

- Generating ideas to solve the reverse of a particular problem, issue, situation, or concern. Once again, more is better and the wilder the better. The hitchhiking or piggybacking as well as combination of ideas is encouraged. However, there is no evaluation of ideas allowed.

10. Reverse Brainstorming

- For example, how can we get six year olds to be less creative?
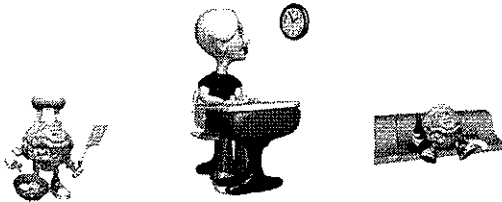
11. Attribute Listing, Modification, and Transformation

a. Attribute Webbing/Listing: "XYZ" shapes, colors, sizes, purpose, numbering.

b. Attribute Modification: "XYZ"--after listing attributes, think of ways to improve each.

c. Alternative Uses: Uses for "XYZ" for this class or for teaching in general.

(find the second best or third best suggestion)

11. Attribute Listing, Modification, and Transformation

d. Attribute Transferring: "XYZ"--transfer ideas from one context to the next.

(with idea spurring questions: What else is this like? What have others done? What else is this like? What could we copy? What has worked before?)

(What can we borrow from a carnival, funeral parlor, track meet, wild west)

12. Idea Spurring Questions

- how can we:
  - –MAXimize,
  - –MAGnify,
  - –arrangeRE,
  - –combine-adapt,
  - –subtutesti,
  - –EEEXXXAAGGGGERRRRATTEE
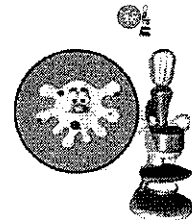
13. International Future Problem Solving Competitions
(USA, Hong Kong, Japan, Korea, Russia, etc.)

- Propose futuristic problem (e.g., space junk, pandemics, body enhancements, caring for elders, child labor).
- Have students solve in teams.
- Present skit, scenario, etc. to class or at competition.

14. Checkerboarding
(done in Lone Ranger series)

- Analyze problems with 2 key variables or components.
- Write features of one item down the horizontal column (plots).
- Write features of another item down the vertical (characters).
- Randomly check off items and a new create story.

15. Morphological Synthesis

- Write features of one item down the horizontal column.
- Write features of another item down the vertical.
- Look at intersection for new item or concept.

Creative Strategies	Critical Strategies					
	1.	2.	3.	4.	5.	6.
1.						
2.						
3.						
4.						
5.						
6.						

Motivational Strategies	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.										
2.										

16. Creative Role Play
(case discussion with 27 roles)

- Pose a problem (how can we increase student creativity in the early childhood program at OU?)
- Assign roles
- Hold forum

17. Visualization, Imagination!
One of Michelle Tanner's deaf students at Gerald Wright Elementary holds an iPod and watches a video of her signing the week's vocabulary words.
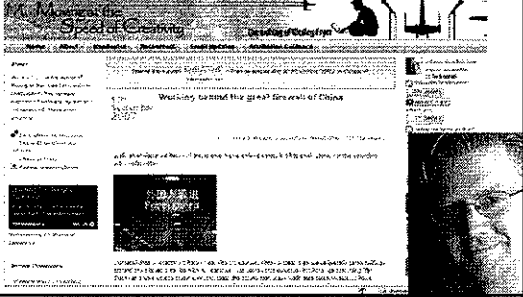
Classrooms go high-tech. By Erin Stewart, Deseret Morning News, March 6, 2007

18. Simulations, Creativity License Cards, Six Hats
from De Bono, 1985
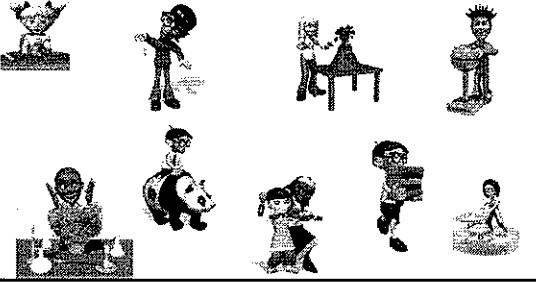
- White Hat: Data, facts, figures, info (neutral)
- Red Hat: Feelings, emotions, intuition, rage...
- Yellow Hat: Positive, sunshine, optimistic
- Black Hat: Logical, negative, judgmental, gloomy
- Green Hat: New ideas, creativity, growth
- Blue Hat: Controls thinking process & organization

19. Web Safaris, Explorations, and Web Link Suggestions (e.g., Website: "Moving at the Speed of Creativity")
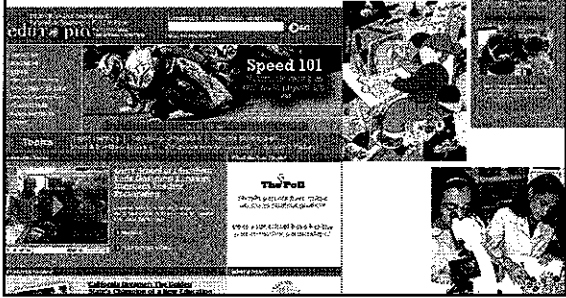

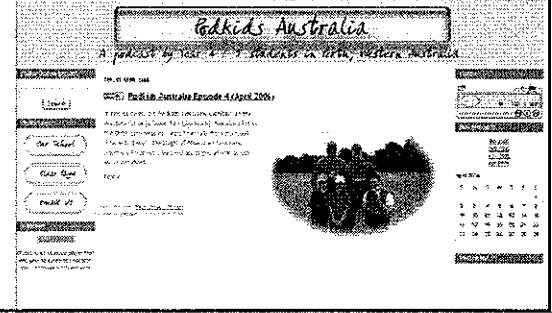### 20. Problem and Product-Based Learning (Some creative tasks involve many things!!!)

George Lucas Education Foundation (GLEF)
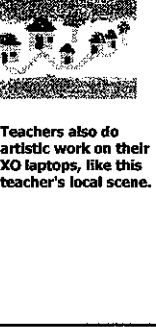http://www.edutopia.org/index.php

Learning with iPods
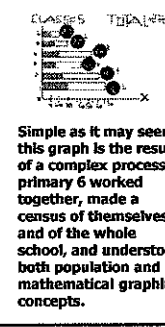(Campus Technology, Dec, 2006)

OLPC in Nigeria: School Galadima
provided School Galadima in March 2007 with an XO laptop for each child in Primary 4, 5 and 6 and also for each member of the staff.

Drawing of his future house by a primary 5 student who wants to be a banker.

Teachers also do artistic work on their XO laptops, like this teacher's local scene.

Simple as it may seem, this graph is the result of a complex process: primary 6 worked together, made a census of themselves and of the whole school, and understood both population and mathematical graphing concepts.

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Top 3 Activity: Stop and Share Best 3 Ideas

It is the End!!!

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