Championing Creativity

In the Classroom and Curriculum

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INTRODUCTION

Championing Creativity
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Creativity: Essential Considerations for Identification of Gifted Students

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Creativity Must Be One of the Identification Criteria: Why?

Reason 1

Difference between IQ & Creativity: Kim, K. H. (2005a). Can only intelligent people be creative? A meta-analysis. *Journal of Secondary Gifted Education, 16*, 57-66.

- Controversy
  - 1) Creative individuals possess divergent thinking abilities not measured by traditional IQ tests (Guilford, 1962)
    - Creativity test scores & creative achievement are independent from IQ (e.g., Getzels & Jackson, 1958; Gough, 1976; Guilford, 1950; Helson, 1971; Helson & Crutchfield 1970; Herr, Moore, & Hansen, 1965; Rossman & Horn, 1972; Rotter, Langl & & Berger, 1971, Torrance, 1977).

…Or Are They? (Kim, 2005a—cont'd)

- 2) A relationship between creativity test scores & IQ scores (e.g., Runco & Albert, 1986; Wallach, 1970)
- 3) Threshold Theory
  - Below IQ 120 - Correlation between IQ & creative potential
  - Above IQ 120 - No correlation (Barron, 1961; Getzels & Jackson, 1962; Guilford, 1967; Guilford & Christensen, 1973; MacKinnon, 1961, 1962, 1967; Simonton, 1994; Walberg, 1988; Walberg & Herbig, 1991; Yamamoto, 1964).

- Conclusions (Kim, 2005, 2008)
- 1) Negligible relationship between IQ & Creativity
  - Mean effect size *r* = .174
  - Threshold theory not supported
- 2) Creative achievement predicted by creativity (*r* = .26) test scores better than by IQ (*r* =.18)

Kim, K. H. (2008). Meta-analyses of the relationship of creative achievement to both IQ & divergent thinking test scores. *Journal of Creative Behavior, 42,* 106-130.

Creativity Must Be One of the Identification Criteria: Why?

Reason 2. Broaden the Scope of Identified Gifted Students

1) Identification based on IQ eliminates 70 percent of the top 20 percent of creative (Torrance, 1960b, 1962, 2002)

- About 80% of top 20% creative students would be missed if gifted students are identified solely by IQ [Kim, K. H. (in press). The relationship between creativity & behavior problems among underachievers. *Creativity Research Journal.]*

2) Most assessments focus on verbal & quantitative ability (Torrance,1977)

Creativity Must Be One of the Identification Criteria: Why?

3) Fair in terms of gender, race, community status, and for persons with a different language background, socioeconomic status, and culture (Cramond, 1993; Torrance, 1971, 1977, Torrance & Torrance, 1972)

4) Include ESOL students for gifted programs (Torrance,1977)

Fairer to students from diverse cultures

- Creativity assessment allows students to respond from their own knowledge rather than from predetermined knowledge
- Fairer, especially when the assessment minimizes verbal components (Jellen & Urban, 1989; Torrance, 1977b; Voss, 1998).
- Evidence from data collected statewide in Georgia (2005)
  - Effectiveness of adding creativity assessments for identifying gifted students, especially those from underserved populations (Krisel & Cowan, 1997; Williams, 2000).

Creativity Must Be As One of the Identification Criteria: Why?

Reason 3. Problems with Teachers' Recommendations

- Teachers tend to:
  - overlook disruptive or unconventional creative students (Davis & Rimm, 1994).
  - prefer gifted children who are low in creativity (Anderson, 1961; Getzels & Jackson, 1958)
  - identify students who are achievers & teacher pleasers (Davis & Rimm, 1994; Oliphant, 1986; Rimm & Davis, 1976; Ritchie, 1980; Robinson, 1980).
- Even worse, energetic & unconventional students are seen as having ADHD (Cramond, 1994).

IDENTIFICATION

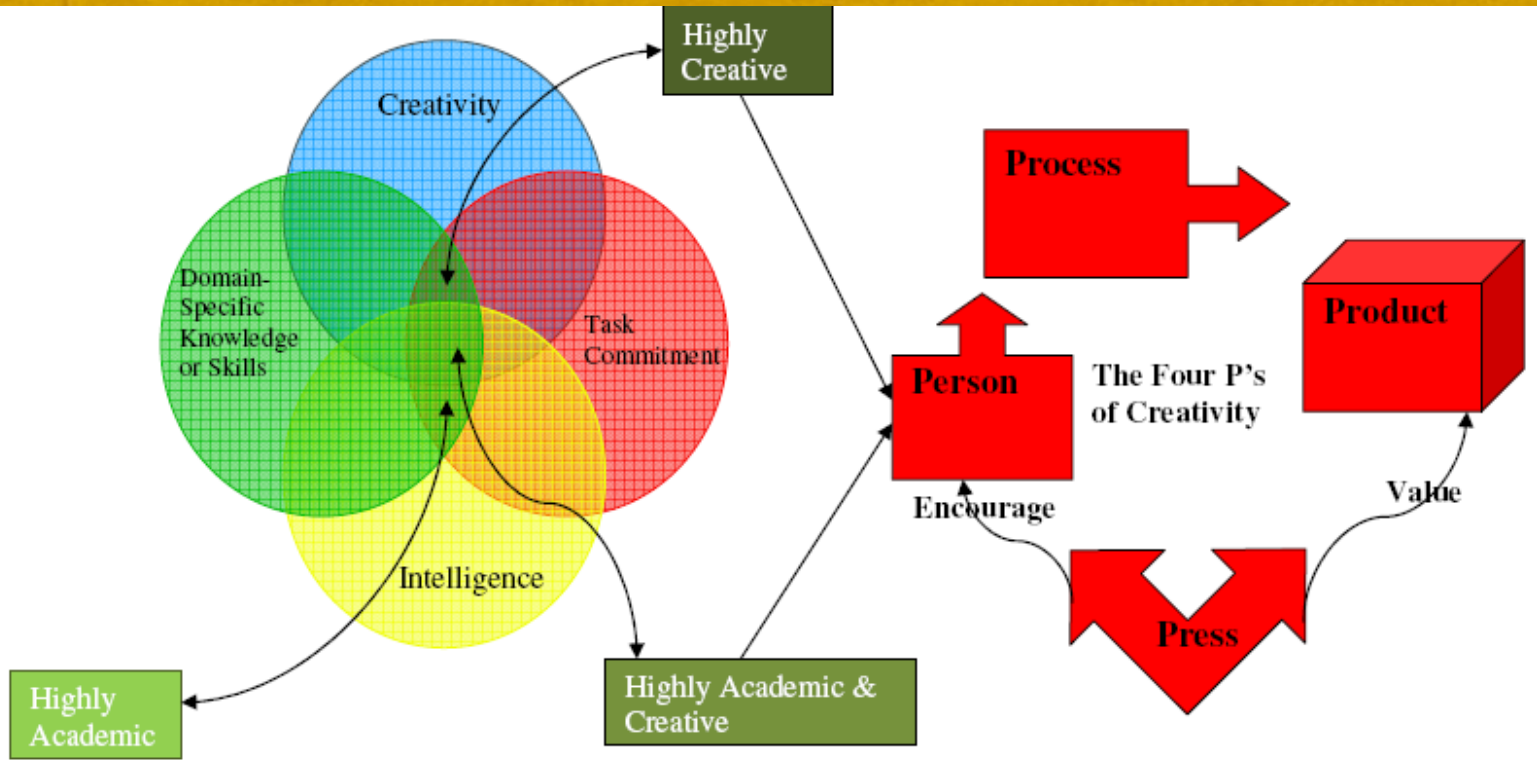


Figure 1. **The definition of giftedness in relation to creativity (Kim, 2008)**

E. Paul Torrance – *"Father of Creativity"*,

… is best known for developing the Torrance Tests of Creative Thinking (TTCT)

- TTCT
  - was developed in 1966 (1966, 1974, 1980, 1998, 2008).
  - translated into over 35 languages (Millar, 2002)
  - highly recommended in the educational field & is also used in the corporate world

IDENTIFICATION

TTCT merits

- Is the most widely used test of creativity (Colangelo & Davis, 1997).
- Is the most referenced of all creativity tests (Lissitz & Willhoft, 1985)
- Is especially useful for identifying gifted & talented students because:
  - Standardized administration & scoring procedures (Davis & Rimm, 1994)
  - Lengthy development & evaluation (Colangelo & Davis, 1997)
  - Proven validity from the longitudinal studies

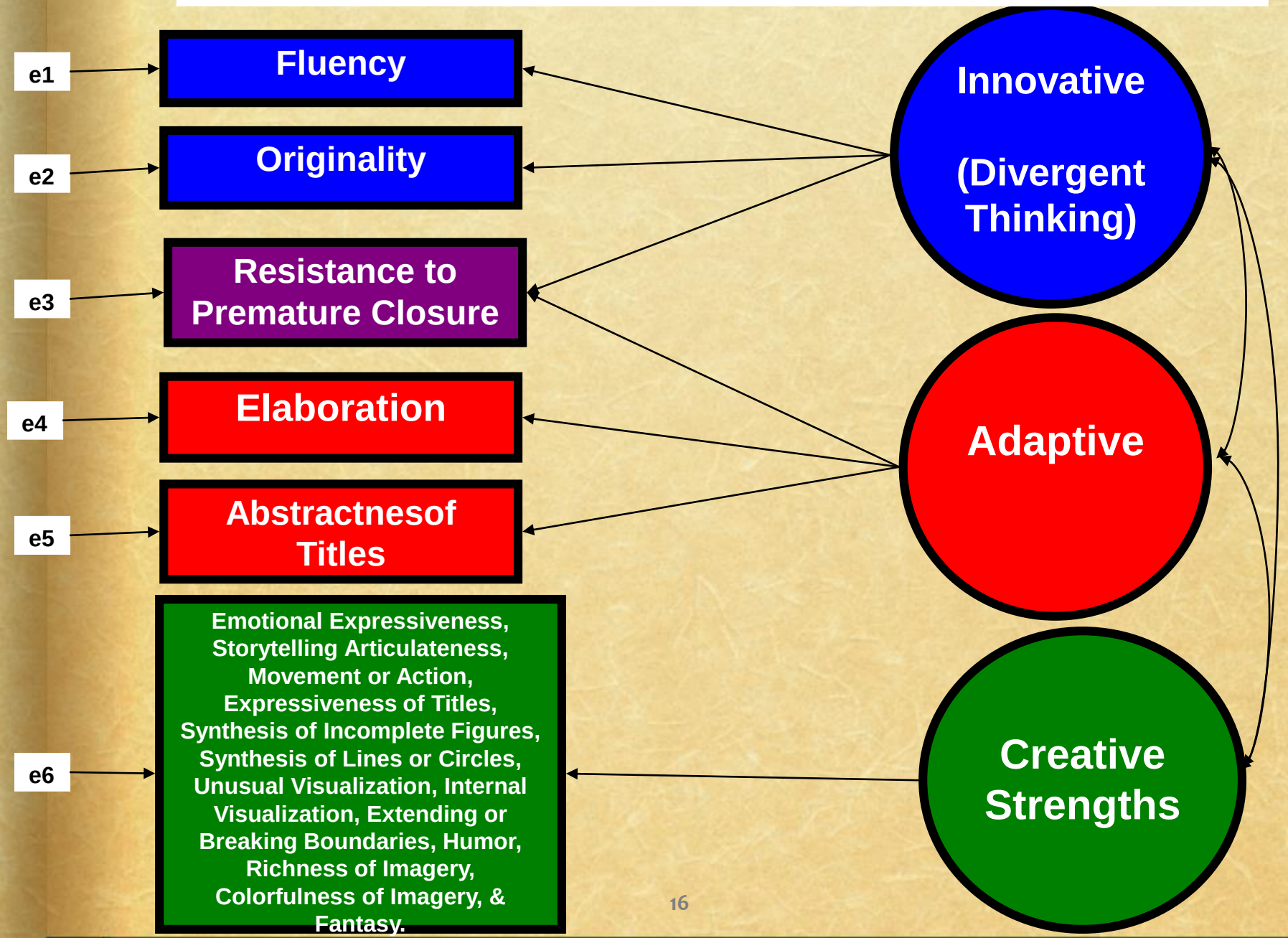
Predictive Validity of the TTCT

- Longitudinal studies with children 7 years, 12 years, 22 years, & 40 years later
  - Conclusion
    - Creativity scores predicted the children's later creative achievement better than IQ scores.
- Meta-analysis (Kim, 2008)
  - Conclusion
    - TTCT predicts (r = .33, $p < .0001$) creative achievement better than other measures of creativity

TTCT Scoring Components

- Fluency
- Originality
- Abstractness of titles
- Elaboration
- Resistance to Premature Closure
- 13 Checklists of Creative Strengths

The Three Factors of the TTCT



ENVIRONMENT

CREATING A SCHOOL and CLASSROOM ENVIRONMENT for CREATIVITY

Dr. Susan Daniels
California State University, San Bernardino
National Association for Gifted Children, Board Institute '09

FOCUS QUESTION

- What do a preschool classroom and the National Aeronautics and Space Administration have in common?

ENVIRONMENT

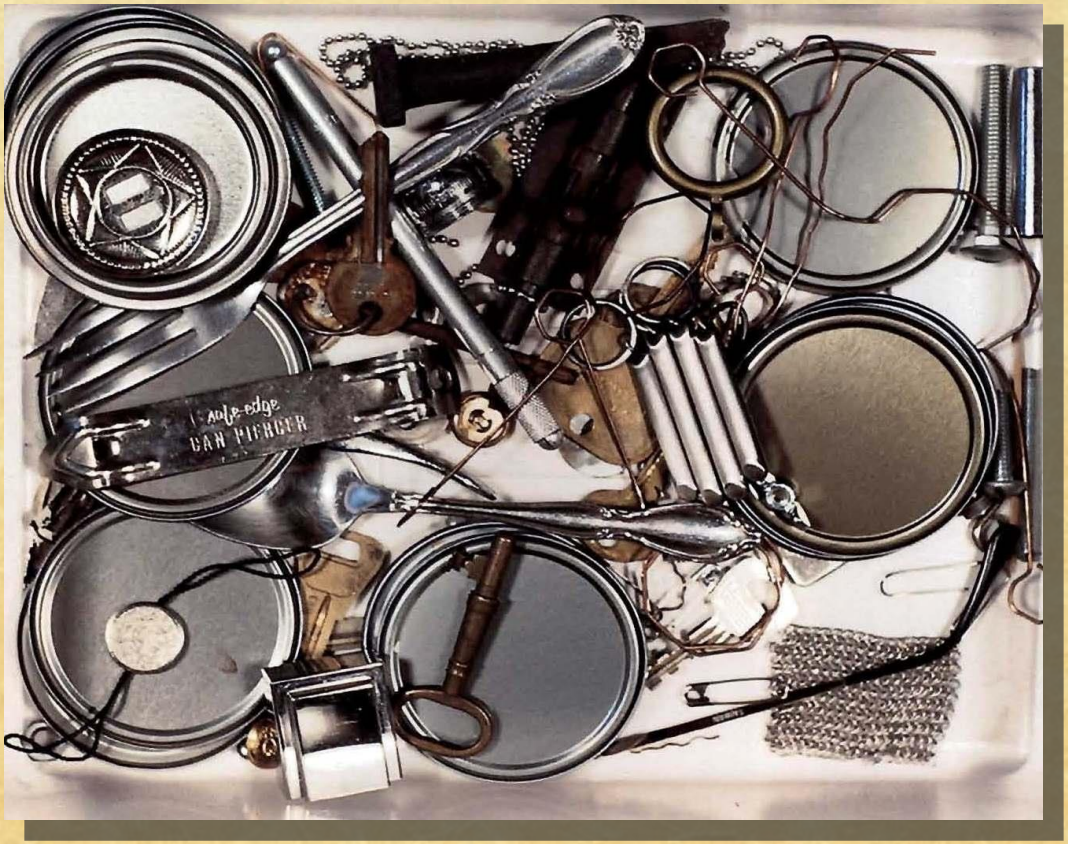
ENVIRONMENT

Let's see…

From *Beautiful Stuff: Learning with Found Materials*

ENVIRONMENT

I planned to bring “beautiful stuff” but…

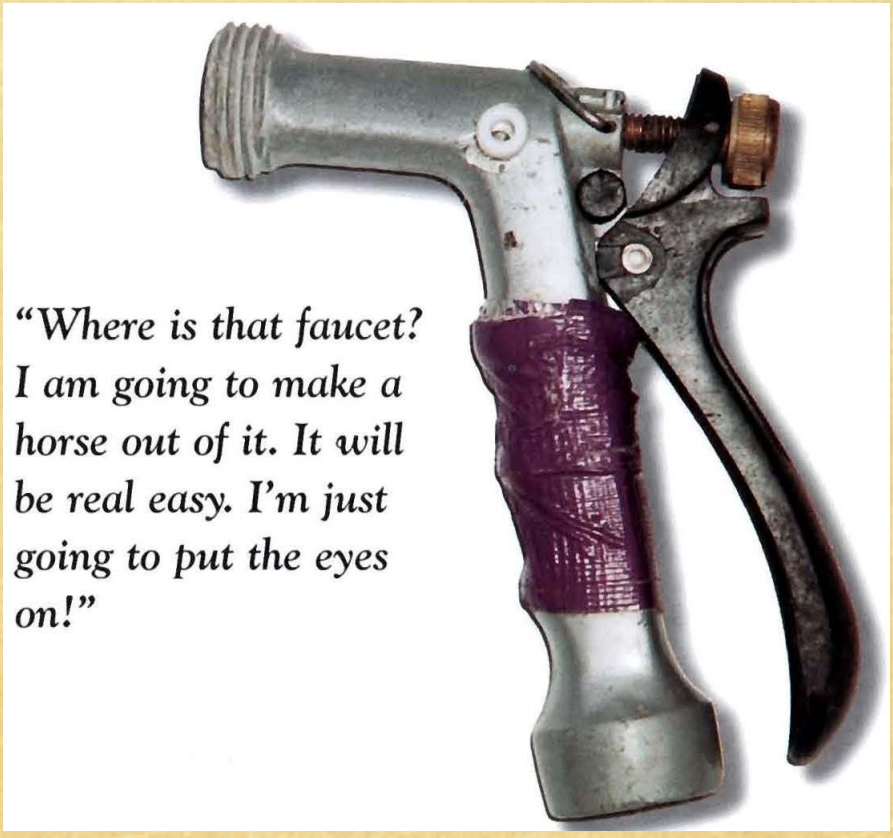


TSA said *“NO!”*

ENVIRONMENT

Reggio Emilia:

Student-centered, Open Learning



Another question to consider: "Would more exploration and use of early childhood methods in K-20 classrooms encourage and support creativity?"

ENVIRONMENT

A Scene from *Apollo 13*

Let's consider *people, materials* and *processes* in *context.*

ENVIRONMENT

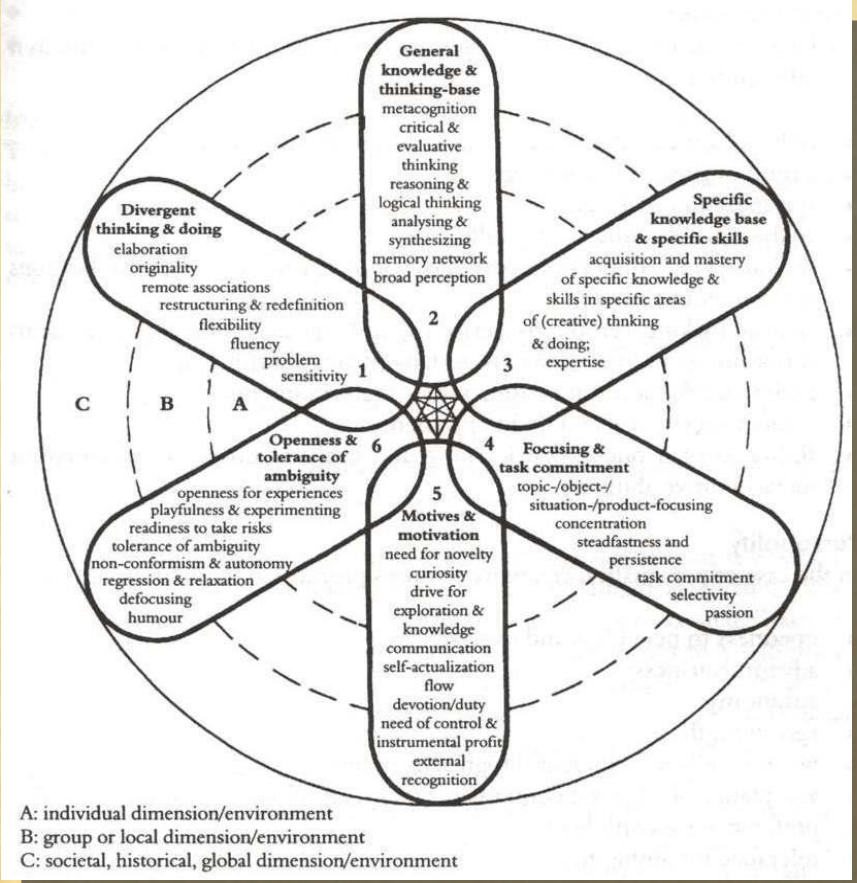
What do a preschool classroom…

- …and NASA have in common???

- I would say…
  - IMAGINATIVE SPACES – Places for creating worlds of possibilities.

THE COMPONENTIAL MODEL OF CREATIVITY

Urban (1990) in Cropley, A. J. (2006). *Creativity in education and learning.*



ENVIRONMENT

ENVIRONMENT

OVERVIEW OF THE COMPONENTIAL MODEL

- Urban (1990) analyzed the interactions leading to creativity by distinguishing a number of *components* that work together. These focus on the person but also look at the relationships *(interactions* or *processes)* among the characteristics of the learner and of the setting *(e.g. the press of the environment)*.
- The model is based on six components, each with a set of subcomponents that work together - for and in the creative process - within a framework of environmental conditions.

ENVIRONMENT

PERHAPS - An Ecological Model:

Person, Processes, and *Press*

- As we discuss the model, please keep in mind Urban's *components* are *purposefully situated* within an *environmental context*.

- Cognitive and personal components:
  - General knowledge and a thinking base
  - Specific knowledge base and area-specific skills
  - Divergent thinking and acting
  - Focusing and task commitment
  - Motivation and motives
  - Openness and tolerance of ambiguity

ENVIRONMENT

CONTEXT AND AN ECOLOGY OF CREATIVITY

- The dynamics and mechanics of the componential functional system are not, however, fully determined by the personal aspects.
- They are highly dependent on the *discouraging/ inhibiting* versus *nurturing/stimulating/inspiring cultivating* influences of the various environmental systems in which creative individuals become active.

ENVIRONMENT

CONTEXTUAL CONSIDERATIONS

- Where person, place and processes meet, *contextual considerations* may be classified in a threefold way:
  - 1. the individual, subjective dimension, with the direct, situational, material and social environment;
  - 2. the group or local dimension with family, peer group, school and local educational system (the micro-environment); and…
  - 3. the societal, historical, global dimension with cultural, political, and scientific conditions (the macro- and meta-environment).

ENVIRONMENT

CONTEXTS FOR STIMULATING CREATIVITY

- Creative thinking and creative products must be communicated to other people and at least tolerated by them ('socio-cultural validation') if they are to be acclaimed – and hence validated - as creative.

- Therefore, what Csikszentmihalyi (1996) called a *congenial environment* is vital.

ENVIRONMENT

CREATIVE ENVIRONMENTS

- Recommendations based on Urban (1996) and Cropley and Urban (2000) –
  - Offer meaningful enrichment of the child's perceptual horizons – "beautiful stuff".
  - Establish psychological security, openness, and expressive freedom.
  - Enable self-directed work (Choice!! The ultimate intrinsic motivator.), allowing a high degree of initiative, spontaneity and experimentation without fear of sanctions against incorrect solutions, errors, or mistakes.
  - Avoid group pressure associated with competition but allow and support a co-operative climate.

CREATIVE ENVIRONMENTS

- Recommendations, continued:
  - Encourage and accept constructive, non-conformist behavior.
  - Encourage and accept novel and original ideas.
  - Plan open-ended instructional activities.
  - Nurture sensibility, flexibility, and divergent thinking.
  - Increase autonomy in and of learning by fostering self-evaluation of progress.

ENVIRONMENT

ENVIRONMENT

CREATIVE ENVIRONMENTS

- Welcome multiple, and unique, perspectives.
- Create organizational and structural conditions that allow open and reversible distribution of roles, themes and problems , as well as sharing of activities.

Teacher Dispositions: Fostering Creative Teaching and Learning through Teacher Education

Michael S. Matthews, Ph.D.

National Association for Gifted Children, St. Louis
November 5, 2009

DISPOSITIONS

What are Dispositions?

"the values, commitments, and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student learning, motivation, and development as well as the educator's own professional growth"

"...Based on their mission, professional education units may determine additional professional dispositions they want candidates to develop" (NCATE, 2007)

"NCATE encourages institutions to measure dispositions by translating them into observable behaviors in school settings" (Johnsen, 2008, p. 42)

Three Legs that Support Effective Teaching

- Knowledge
- Skills
- Dispositions

  We know their relevance through areas such as...
  - The role of teacher training in establishing positive attitudes toward academically gifted learners (e.g. Geake & Gross, 2008)
  - The development of cultural competency (Shaunessy & Matthews, 2008) to promote equity in the classroom
  - Teacher perceptions of creative learners

DISPOSITIONS

DISPOSITIONS

What do we know about Dispo-sitions and Teaching for Creativity?

- A long tradition of research demonstrates teachers' dispositional differences toward different student profiles (Cramond & Martin, 1987; Tannenbaum, 1962)
- Teachers may misperceive characteristics of highly creative learners as indicating a deficit such as ADHD (Cramond, 1994)
- Both the educational environment (i.e., pedagogy) as well as the types of tasks students are asked to perform in school can influence the development of creative behaviors among young learners (Besançon & Lubart, 2008)

DISPOSITIONS

Where does this lead us?

Teacher dispositions related to *creative children* and *creative behaviors* both must be fostered if we are to improve the educational climate in which children with creative tendencies are being taught.

How do we accomplish this task?

Two Assumptions:

1. Creativity strategies can be transferred to different situations
2. When we teach teachers to be more creative, they will in turn help their students' creativity to blossom.

DISPOSITIONS

3 Steps toward more effective Teacher Education

Problem: Teachers are not sure how to teach creatively

Step One

1. Develop teachers' creative metacognition
   - Consciously foster an environment conducive to creativity
     - Publicize opportunities for self-directed learning
   - Explain to pre-service/in-service teachers *why* and *how* you are structuring your classroom in this manner
   - Discuss what it might look like in their classroom setting:
     - Similarities and differences in choice of creativity strategies
     - Accommodations for age and maturity of their students

DISPOSITIONS

3 Steps toward more effective Teacher Education

Problem: Some strategies are overused; others are applied seemingly at random or are very rarely used

Step Two

2. Provide direct experience in using a variety of creative strategies
   - We'll be doing this with you this afternoon
   - Don't stop at simply using the strategies with teachers; after use, follow up by evaluating which approaches seem most effective in leading learners toward specific educational outcomes in specific content areas
   - Assignments can involve practice in effectively matching strategies with content area instruction

DISPOSITIONS

3 Steps toward more effective Teacher Education

Problem: Teachers report being afraid to teach 'out of the box' due to pressures from administration, standardized testing, and parents

Step Three

3. Teach teachers how to relate creative teaching strategies to relevant state and national standards
   - Keeps teachers out of trouble & provides a solid foundation for the use of creative teaching and learning strategies
   - Greater familiarity with relevant standards can improve differentiation as well as the use of creativity strategies

DISPOSITIONS

Which Standards are Relevant? Many Are:

- Your state curriculum standards or frameworks
- Framework for 21st Century Learning
- NAGC PK-12 Gifted Program Standards
  - See presentation at 2:45 Friday by Susan Johnsen et al. on the new draft Standards
- National standards for content areas
  - National Council of Teachers of Mathematics
  - National Science Education Standards and Project 2061's Benchmarks for Science Literacy
  - The ISTE National Educational Technology Standards

Implicit Beliefs of Creativity: Like a Fiddler on the Roof (sounds crazy, no?)

Matthew Makel

Creative weather forecasters do a lot of brain storming

IMPLICIT BELIEFS

Before going too far…

Explicit theories: *invented* by researchers

Implicit theories: held and used by lay people (and *discovered* by researchers)

Implicit theories

-Provide the basis for how people view creativity

-Can be used to develop and change explicit theories of creativity

-Help us understand how people (e.g., teachers) think/judge creativity

IMPLICIT BELIEFS

Myths of Creativity

-Creative performance increases in groups

-No one really knows what creativity is

-Creativity is associated with negative aspects of psychology and society

-Creativity is only associated with the arts

-People are born creative or uncreative

Plucker, Beghetto, & Dow (2004)

IMPLICIT BELIEFS

Two Types of Implicit Beliefs

1. Beliefs about the nature of creativity

2. Beliefs about what/who is creative

IMPLICIT BELIEFS

The Nature of Creativity

Is creativity Fixed or is it Malleable?

In other words: Can we make someone MORE creative?

IMPLICIT BELIEFS

The Nature of Creativity

Is creativity Fixed or is it Malleable?

In other words: Can we make someone MORE creative?

"No. Try not. Do... or do not. There is no try."

-Yoda

IMPLICIT BELIEFS

Carol Dweck: Mindset

"Children who believe intelligence

is a fixed trait tend to orient toward

gaining favorable judgments of that trait

(performance goals), whereas children who believe intelligence is a malleable quality tend to orient toward developing that quality (learning goals). The goals then appear to set up the different behavior patterns." (Dweck,1986; p. 1041)

Fixed and Malleable Beliefs

Fixed: performance goals

Malleable: learning goals

- Fixed:
  - Want positive judgments and to avoid negative
  - Validate that I am smart.
  - Get an A.
- Malleable:
  - Want to increase competence
  - Better understand the material
  - Improvement

IMPLICIT BELIEFS

Implicit Beliefs of Future Teachers

1. You have a certain amount of creativity and you really can't do much to change it.

2. Your creativity is something about you that you can't change very much.

3. You can learn new things, but you can't really change your basic creativity.

IMPLICIT BELIEFS

Future Teachers Implicit Beliefs about Creativity

	EDUC	Other
Fixed	41%	32%
Malleable	37%	58%
Middle	22%	11%

IMPLICIT BELIEFS

Creativity in the Classroom

Do we try to:

CRUSH Creativity

Enhance Creativity

Encourage Creativity

"the ability to face challenges is not about your actual skills; it's about the mind-set you bring to a challenge" Carol Dweck

IMPLICIT BELIEFS

Creativity in the Classroom

Do we really like creative kids?

What does a creative kid look like?

IMPLICIT BELIEFS

Which describes a creative child?

Option 1	Option A
Makes rules as go	Individualistic
Impulsive	Takes Chances
Nonconformist	Progressive
Emotional	Determined
Progressive	Sincere
Determined	Appreciative
Individualistic	Good-Natured
Takes Changes	Responsible
Doesn't know own limits	Logical
Likes to be Alone	Reliable

IMPLICIT BELIEFS

Which describes a creative child?

College Students	Teachers
Makes rules as go	Individualistic
Impulsive	Takes Chances
Nonconformist	Progressive
Emotional	Determined
Progressive	Sincere
Determined	Appreciative
Individualistic	Good-Natured
Takes Chances	Responsible
Doesn't know own limits	Logical
Likes to be Alone	Reliable

Westby & Dawson, 1995

IMPLICIT BELIEFS

Implicit Beliefs of Gifted Kids

1. I consider myself to be very creative.
2. I am good at coming up with new and different ideas.
3. I don't have much of an imagination.
4. People who know me would say that I am more creative than most people.
5. I like thinking of original and novel plans.
6. I prefer to do things by the book.

US: mean of 4.5

Changing Implicit Beliefs, Changing Creativity?

Introduce the idea of fixed versus malleable ability.

Make a Malleable belief system part of your classroom.

-Praise effort not just outcome

-Allow for “failure”

4 C MODEL

The Four-C Model

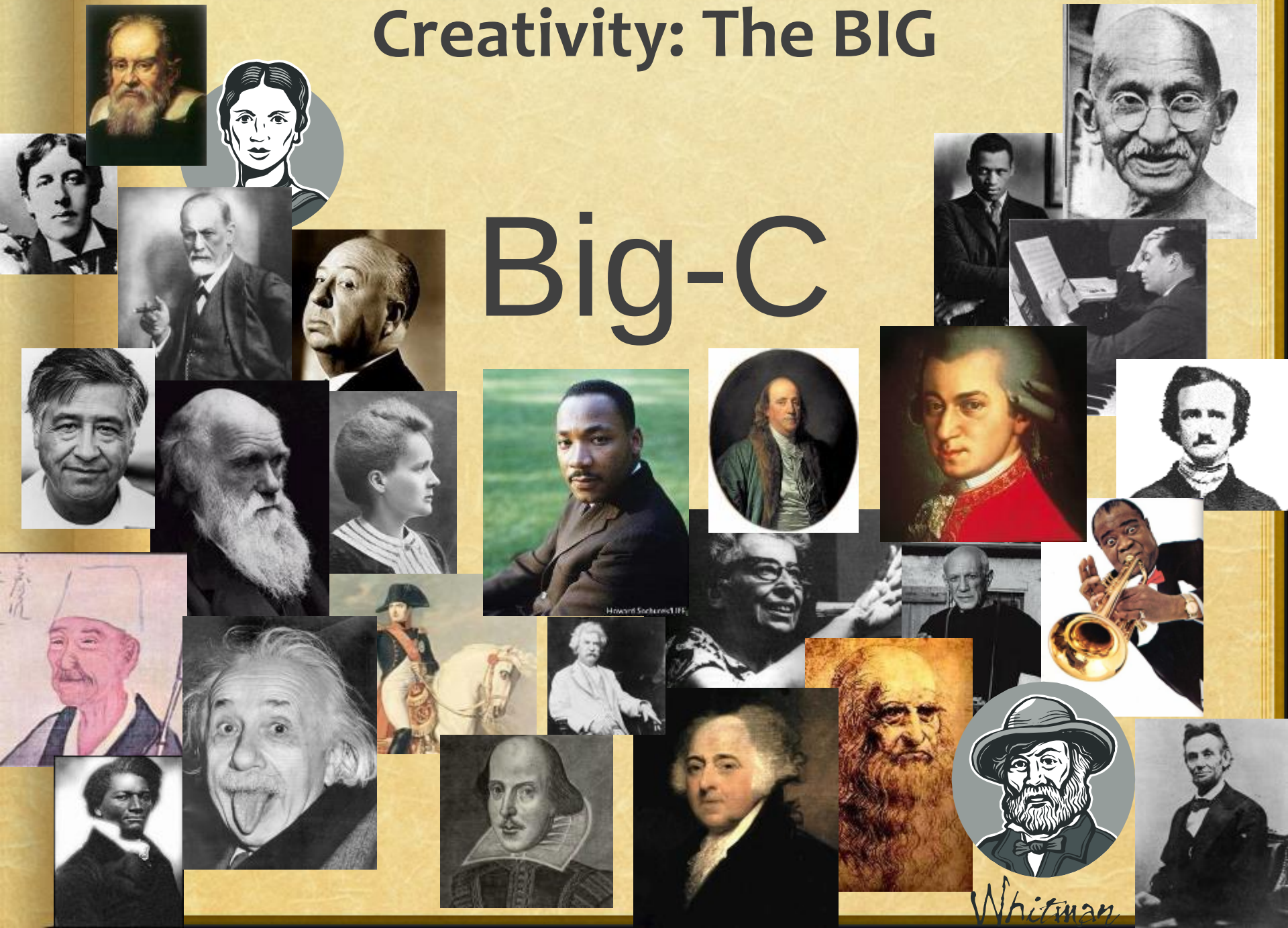
JAMES C KAUFMAN

After nearly 60 years of research, most approaches to creativity still tend to proceed in one of two ways…..

theory developed with Ron Beghetto

Creativity: The BIG

Big-C



Creativity: The BIG

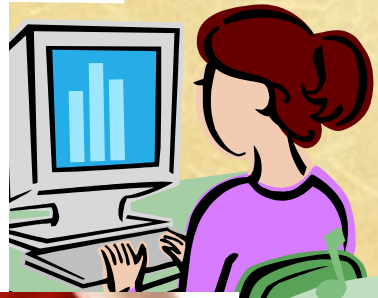
4C MODEL

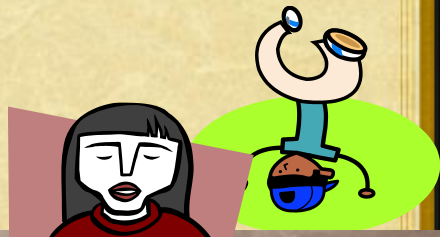
Big-C is creative genius.

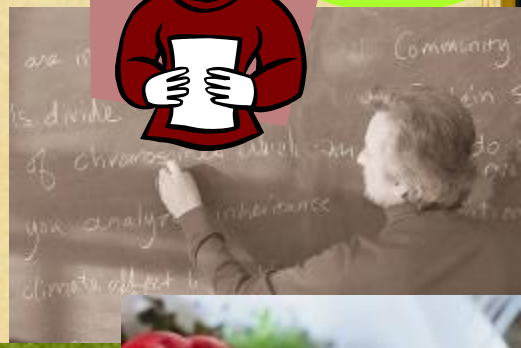
Unambiguous, eminent creative achievement.

Usually dead people.

Creativity: The little







little-c

Creativity: The little

4 C MODEL

little-C is everyday creativity.

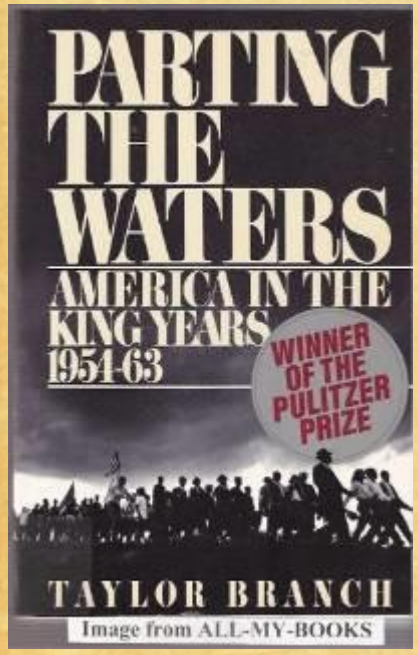
Creativity that everyone and anyone can do.

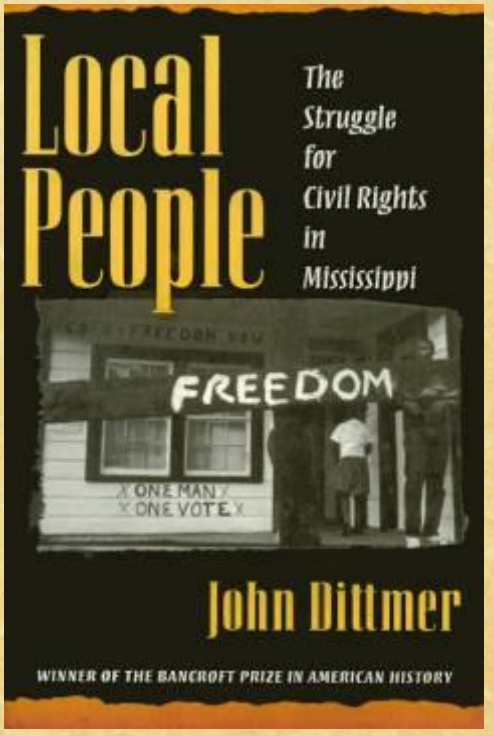
It could be telling stories, or scrapbooking, or teaching, or playing the guitar, or developing a new recipe….

Creativity: Big and Little

This happens in most disciplines.

In History, for example, the question of Civil Rights can be approached in different ways:





4C MODEL

Creativity:
Beyond little-c

4C MODEL

What about creativity that doesn't (yet) reach little-c?

"Any human act that gives rise to something new is referred to as a creative act, regardless of whether what is created is a physical object **or some mental or emotional construct that lives within the person who created it and is known only to him**"

- Lev S. Vygotsky (1967/2004) from Imagination and Creativity in Childhood

Creativity:
Introducing "mini-c"

4C MODEL

mini-c

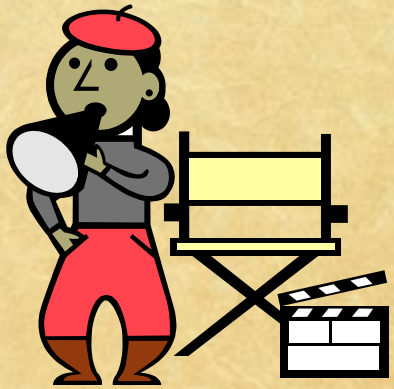
The novel and personally meaningful interpretation of experiences, actions, and events

- Beghetto & Kaufman (2007)

4 C MODEL

Creativity:
Beyond Big-C

There is also the consideration of creativity that doesn't quite reach Big-C…..



Professional doesn't always mean eminent

4 C MODEL

Creativity:
Introducing "Pro-c"

Pro-c is professional-level creativity that represents a progression from little-c, yet has not been clearly earmarked as attaining Big-C status

- Kaufman & Beghetto, in press

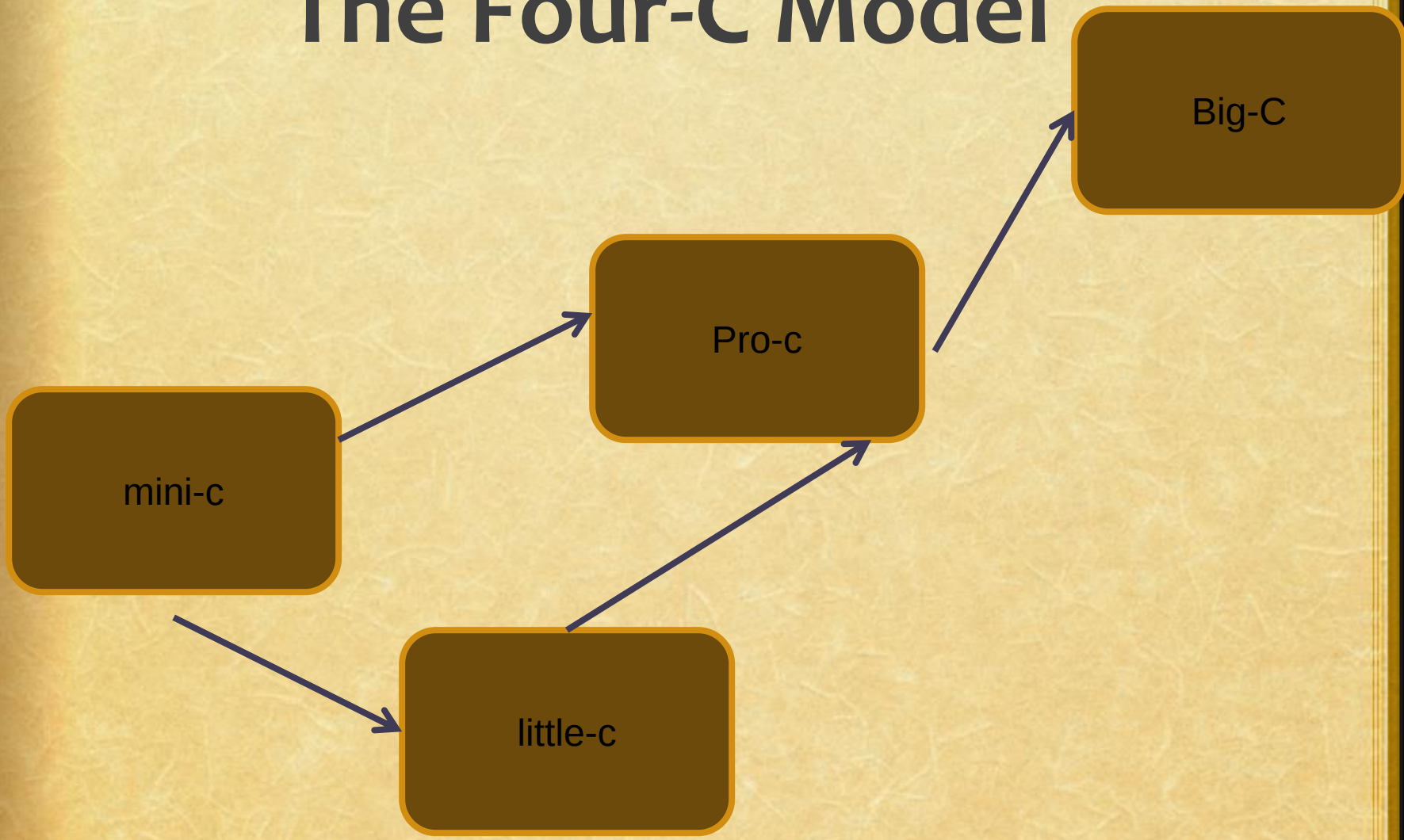
Creativity:
Introducing "Pro-c"

4C MODEL

- Most creators who function at a professional level will reach Pro-c

- Some creators will reach Pro-c yet be unable to turn their creativity into a working profession.

The Four-C Model



4 C MODEL

The Four-C Model

4 C MODEL

I enjoy carving faces out of potatoes

I can bring my potato-faces to the county fair and enjoy being creative

I am selling my potatoes, and People Magazine did an article about how I am a top potato-face creator!

mini-c

little-c

Pro-C

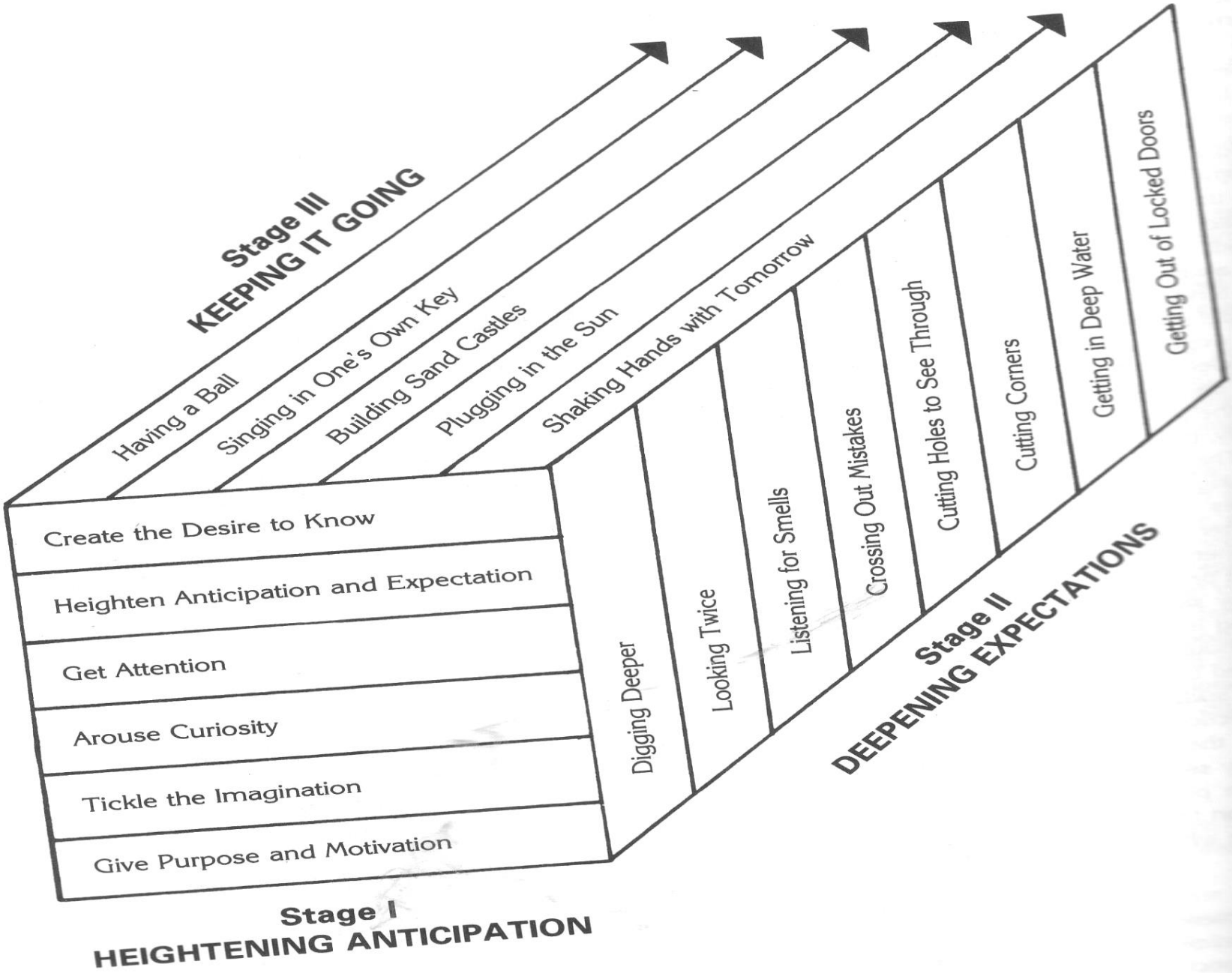
INCUBATION MODEL

Incubation Model by E. Paul Torrance

Three-stage model for developing creativity through the curriculum

- Stage I—Heightening Anticipation
  - to warm student up to creative thinking
  - to make clear connections between new material and something meaningful in their lives
- Stage II—Deepening Expectations
  - Interacting with the material in new ways
- Stage III—Keeping it Going
  - Continuing the thinking beyond the lesson and beyond the classroom

INCUBATION MODEL



INCUBATION MODEL

Example Lesson

- **Grades:** 3-5,
- **Topic:** Literature,
- **Content Goal:** Introduction to elements of a story,
- **Creativity Goal:** Producing Many Alternatives
  - Learning about character
  - Learning about setting
  - Learning about plot

I. The teacher reads the detective adventure, *Encyclopedia Brown*, to students, leaving out the solution offered at the end of the story on the way Encyclopedia solves the crime.

II. Students brainstorm in small groups possible answers to the following problems:

A girl hit the baseball well, then stomped off of the field. Why?

You are walking to school by yourself. The school is only 5 minutes away, but it takes you one hour. Why?

Your cousin needs $10 by Saturday for his basketball uniform or his coach won't let him play. Nobody will lend him money. How can he get it?

Keeping it Going?

- Have groups of students share their solutions with one another.
- Then, read the end of the Encyclopedia Brown story.
- Guide the class in relating the alternatives through the understanding of character, setting, and/or plot as literary vehicles through which many possibilities flow
- "Try to think of another intriguing action of a character, another setting complication, and/or another plot twist. How might you put them together to form a new story?"
- "Can you think of a mystery with a solution that no one can guess?"

PROGRAMS

Some Programs and Competitions

- **Future Problem Solving**

http://www.fpsp.org/

- **Odyssey of the Mind**

http://www.odysseyofthemind.com

- **Invent America**

http://www.inventamerica.com

- **Destination Imagination**

http://www.destinationimagination.org

EVALUATION

Reis, S.M., & Renzulli, J.S. (1991). The assessment of creative products in programs for the gifted and talented. Gifted Child Quarterly, 35, p. 128.

Figure 1
Student Product Assessment Form
Summary Sheet

Name(s) _____ Date _____

District _____ School _____

Teacher _____ Grade _____ Sex _____

Product (Title and/or Brief Description) _____

_____

Number of Months Student(s) worked on Product _____

	FACTORS	RATING*	NOT APPLICABLE
1.	Early Statement of Purpose		
2.	Problem Focusing		
3.	Level of Resources		
4.	Diversity of Resources		
5.	Appropriateness of Resources		
6.	Logic, Sequence, and Transition		
7.	Action Orientation		
8.	Audience		
9.	Overall Assessment		
	A. Originality of the Idea		
	B. Achieved Objectives Stated in Plan		
	C. Advanced Familiarity with Subject		
	D. Quality Beyond Age/Grade Level		
	E. Care, Attention to Detail, etc.		
	F. Time, Effort, Energy		
	G. Original Contribution		

Comments:

Person completing this form:

_____

*Rating Scales: Factors 1-8
5 - To a great extent
3 - Somewhat
1 - To a limited extent

Factors 9A - 9G
5 = Outstanding
4 = Above Average
3 = Average
2 = Below Average
1 = Poor

Besemer, S.P., & O'Quinn, K. (1999). Confirming the Three-Factor Creative Product Analysis Matrix Model in an American Sample. *Creativity Research Journal, 12,* 287-296.

Novelty | Resolution | Elaboration & Synthesis

EVALUATION

o l e

Consensual Assessment Technique

Who are the best judges of creativity?

Amabile (1996) recommends appropriate experts.

For poets, for example, this would mean using professional poets.

CONSENSUAL ASSESSMENT

Consensual Assessment Technique

This can be difficult. Poets are hard to find when you need one.

Consensual Assessment Technique

Baer, Kaufman, and Gentile (2004) found that many different types of experts could be used:

- Creative writers
- Psychologists who study creativity
- Editors of children's literary journals
- 8th grade creative writing teachers

Consensual Assessment Technique

Kaufman, Gentile, and Baer (2005) compared these Pro-c experts with little-c writers (gifted novices).

The little-c writers showed solid reliability and significant correlations with the Pro-c experts.

Consensual Assessment Technique

Kaufman, Cole, Baer, and Sexton (2008), extended this question to examine mini-c judges.

In this study, we asked 205 college students to write brief poems…

CONSENSUAL ASSESSMENT

Consensual Assessment Technique

We then asked 106 college students to assess all poems. They were not poetry majors and did not have particular interest in poetry.

Consensual Assessment Technique

We also asked ten professional poets to rate all of the poems.

These poets will not return my phone calls anymore.

Consensual Assessment Technique

The correlation between poem ratings for experts and students was $r = .22$

CONSENSUAL ASSESSMENT

Who can judge creativity?

This finding may indicate why the *People's Choice* awards tend not to pick the Oscar winners.

Championing Creativity in the Classroom and Curriculum

Board Institute Presented at the National Association for Gifted Children Annual Conference, Nov. 5, 2009
St. Louis, MO