Creative Thinking and Teaching Methods at School

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www.croc-lab.org

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Today's Plan

- 1. What we mean by creativity.
- 2. What should we mean by creativity?
- 3. Creativity skills and dispositions.
 - 1. Both Matter
 - 2. Dispositions may be more impt. for teachers.
- 4. Assessing how creativity works
- 5. Assessing instruction for creativity.

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The Arts and Achievement in At-Risk Youth:

National Endowment for the Arts

Findings from Four Longitudinal Studies

Clarifying Creativity



Defining Creativity: Valuable

Valuable or Meaningful Ideas

Accomplishing things more efficiently Connecting ideas to create new, valuable perspectives

Accomplishing New or Better things

CREATIVITY CAN NEED A KNOWLEDGE BASE: Tools and Materials



Domain-Specific

Vs.

General Creativity

: CREATIVITY IS OFTEN JUDGED BY DOMAIN PEERS



INTIMIDATING DOMAIN PEERS



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In school, who judges

IN SCHOOLS

CREATIVITY MAY BE JUDGED BY:

TEACHERS FAMILY STUDENT PEERS / FRIENDS THE STUDENT

(EXTERNAL / INTERNAL)

Overlooked: val to indiv

An Overlooked Dimension of Creativity:

The VALUE OF CREATIVE THOUGHT TO THE INDIVIDUAL

COGNITION – IMAGINE, TEST, REVISE, LEARN

IDENTITY – IMAGINE, TEST, REVISE, DEVELOP

HOW WE LEARN AND WHO WE BECOME (NON-TRIVIAL CONCERNS)

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INTRO C-lab: Design challenges

How the C-Lab Works: Design Challenges



Tools and materials

Create





Knowledge base

Invent

Collaboration





Associative thinking

Human relations

Creativity bytes

How creativity works in schools

Make Space	Converse / Collaborate	Process as end
Value Play	Change surroundings	Personal value as end
Celebrate false starts	Demonstrate	Personal meaning as end
Embrace dead ends	Perform	
	Cross disciplines	



Creativity and technology

Two visions

Assessing creativity

Assessing Creativity

General Creativity Domain-specific creativity

Disney After-school Pilot Creativity Programs Draft Model of GENERAL Creativity Assessment								
Target I: Participant Level Growth in Creative Thinking and Dispositions for Creative Thinking	Specific Skills/Dispositions to be Assessed Measured Pre- and Post	Instruments/Measures	N items	Admin. Time Minutes				
A. General Creative Thinking and Dispositions	1. Fluency in general divergent/associative thinking.	Individual generation of ideas instrument. E.G. How many uses for a specific unfamiliar object? Scored by number of ideas produced and by quality of ideas (based on rater judgement). 6- minutes.	1	6				
	2. Self-beliefs about originality, flexibility, elaboration, intrinsic motivation, in <u>general</u> .	Torrance type test based on individual answers to multiple-choice questions. 24 items, 8- minutes.	24	7				
B. Domain Specific Creative Thinking and Dispositions	3. Fluency in <u>domain specific</u> divergent/associative thinking.	Individual generation of ideas instrument. E.G. Describe as many different <u>designs</u> as you can for toy wagon wheels?. Number of designs produced; quality of ideas (rater judgement). 10-minutes.	1	10				
	4. Self-beliefs about: originality, fluency, flexibility, elaboration, intrinsic motivation in <u>project-specific</u> domains. (Based on classic general creativity Torrance Test of Creative Thinking Skills.)	Torrance type test based on individual answers to multiple-choice questions. 24 items, 8- minutes.	24	7				
C. Domain-specific self-efficacy beliefs,	5. Participant self-assessments of ability to create in <u>project</u> <u>domains</u> , to solve problems <u>related to program activities</u> , beliefs that individual efforts matter more than luck or chance in achieving things. Classical self-efficacy scale focused on <u>project</u> <u>domain</u> . 12 items, 4-5 minutes.	Classic, domain-specific self-efficacy instrument.	12	4				
D. General collaboration skills, attitudes	6. Participant self-assessments of abillities to collaborate, value placed on collaboration, and interest in collaborating.	Participant ratings of abilities, value, and interest in collaborating	6	3				
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Disney After-school Pilot Creativity Programs Draft Model of DOMAIN-SPECIFIC Creativity Assessment								
Target II: Participants' Created Ideas and Products During Program	Ideas and Products to be Assessed	Instruments/Measures	N items	Student Time Minutes	TA/T/ expert time minutes			
A. Individual ideas and products	7. Participant self-reports on own ideas created and/or products achieved during program.	Journal prompt	2	15				
	8. Participant self-reports on ideas contributed to group products and group products achieved during program.	Journal prompt	2	15				
	And where teaching artists or teachers are able to rate individuals' ideas and/or creative products, include ratings 9. and 10.							
	9. Teaching artist or teacher reports on <u>individual</u> idea creation and product(s),	TA or teacher to complete roster ratings	1		20 (1)			
	10. Teaching artist or teacher reports on <u>individual</u> <u>contributions</u> to <u>group</u> ideas and products.	TA or teacher to complete roster ratings	1		20 (1)			
	11. Assessment of actual created individual products.	Expert/TA or Expert or TA review of actual products, expert/T rating scale. Using portfolios including photographs, or onsite examination at culmination faires and shows. (2)			4 hours (1)			
Target III: General Group- Created Ideas and Products During Program	Assessment of final program product, where applicable. (E.G. Disney Musical performed; ArtScience Prize project completed; possibly a classwide project at NYSci; Overview assessment of school-year play program by school Principal, final theatre performance at ICA. Classwide Graphic Design product at ICA.	Expert viewing of final shows. Collaborate with program staff on creative criteria. Interviews and or written assessments of site personnel.			4 hours (1)			
www.croc-lab.org	(1) Time needed depends on numbers of students, numbers of products, and so on.	rect admin. minutes / total including transitions 30		30/35	varies			

All assessments above are conducted only near or at the end of each program.

(2) Expert is an externally nominated expert (contracted by Disney; contracted by Centers for Research on Creativity; or secured by Program. Depending on goal.

Pre-invention

2. A toy company asks you to INVENT a new toy for an 8-year old boy or girl - a toy <u>never made before</u>. What toy would you invent? (Describe: 4 minutes)
I would make a toy that A contract execut
A haff. Aurte with a unicon it woold be huge.

Post-invention: Same Child



Post-invention: Same Child

machine that can smell what's inside present.

A machine that can smell what's inside a present!

Pre- and Post- Measurement Scale Results: C-Lab

Inner-City Arts Creativity Lab: Mean Scores on Pre- and Post- Program Student Survey, Winter 2012. All students. N=26



Student Journaling



Fantasy roller coaster with meatballs on track

CRoC Agenda



The Disney Six:

common ques / diverse programs mobile technologies as assess tools Advance study of creativity in science

The Creativity Lab advance from pilot assessment

The Art Farm Promoting Creativity in School partnerships with Teaching Artists *Keep up with us:*

Centers for Research on Creativity

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