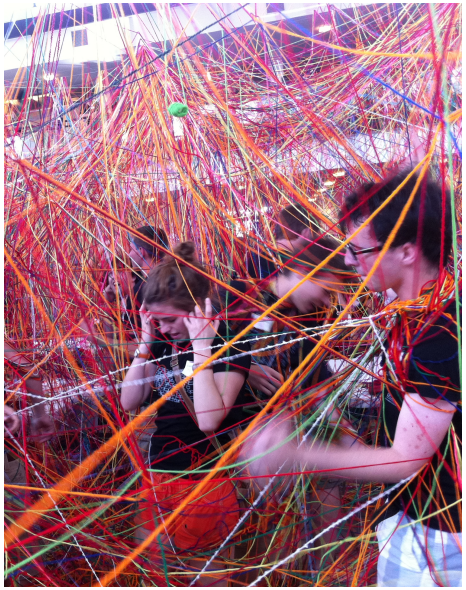
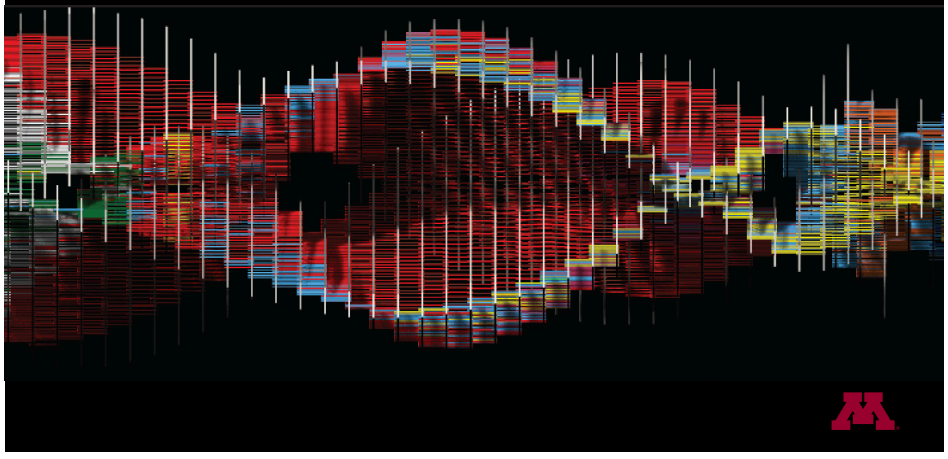
Developing Creativity in the Classroom

Minnesota Summit on Learning and Technology



Brad Hokanson
7.31.19

"Teaching" Creativity



"Teaching" Creativity

Outstanding creativity was considered the gift of the gods or spirits, not a human act.

Peterson & Seligman, 2004

Ka by Cirque du Soleil

While robots are great at optimizing old ideas, organizations most need creative employees who can conceive the solutions of tomorrow.

LinkedIn

In practice, greater creativity is a key to greater productivity, whether by way of higher-value products and services, better processes, more effective marketing, simpler structures or better use of people's skills.

Sir George Cox, 2005

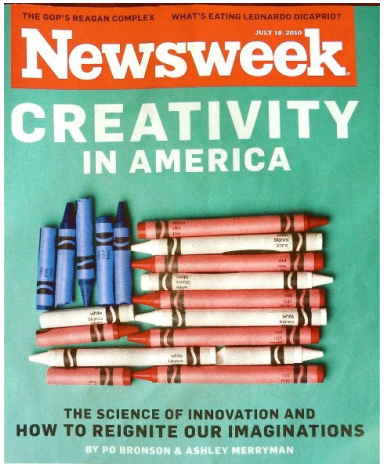
Results suggest that just under half of the variance in adult creative achievement is explained by divergent thinking test scores, with the contribution of divergent thinking being more than 3 times that of intelligence quotients.

Plucker, 1997

Creativity

Creativity

Current understandings, research



Since 1990, measured creativity has declined in American school children…

…while England, Denmark, Singapore, Taiwan, and China are changing their school curriculums to make kids more creative.

Defining Creativity

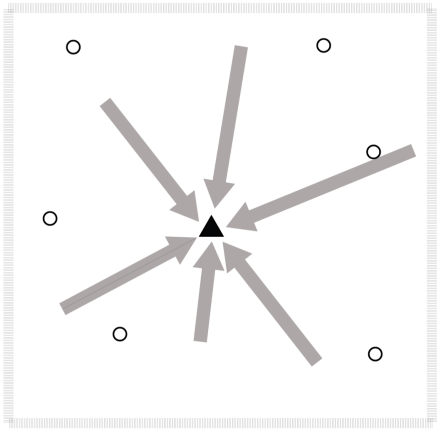
Original: creative ideas are new, novel, unique, rare.

Valuable: creative ideas are applicable, appropriate, useful or of value to individuals or society

In Context: how it is evaluated and compared, either totally or locally.

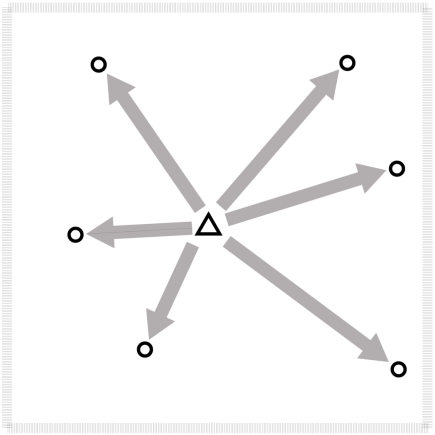
Convergent Thinking

Focusing on and improving a singular idea



Divergent Thinking

Generating multiple ideas and concepts



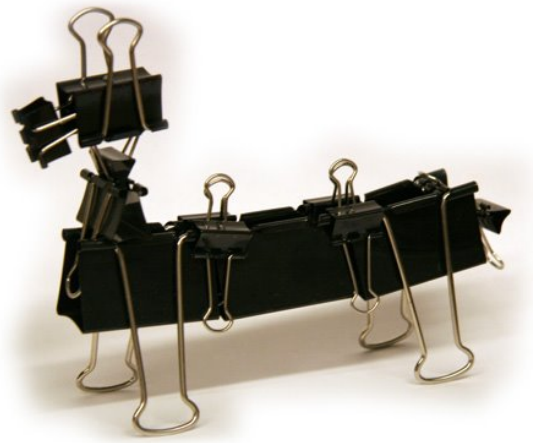
The best way to have a good idea is to have a lot of ideas and to throw the bad ones away.

Linus Pauling

If I have a thousand ideas and only one turns out to be good, I am satisfied.

Alfred Nobel

Ideas



start

start.

Evaluating Creativity

Fluency: number of ideas or answers to a given prompt

Originality: the rarity or uniqueness of answers

Flexibility: number of different types of answers

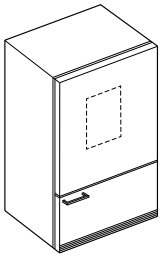
Elaboration: number of details added to any answer

The only wrong answer is *one* answer.

Being slightly embarrassed.

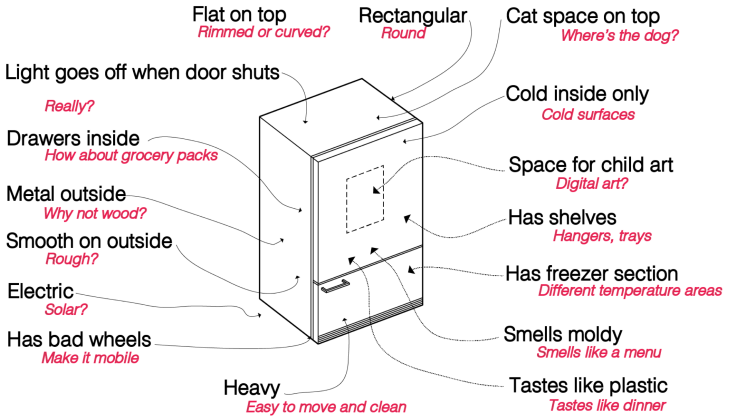
Building a habit of variation.

Attribute Listing a Refrigerator



start more

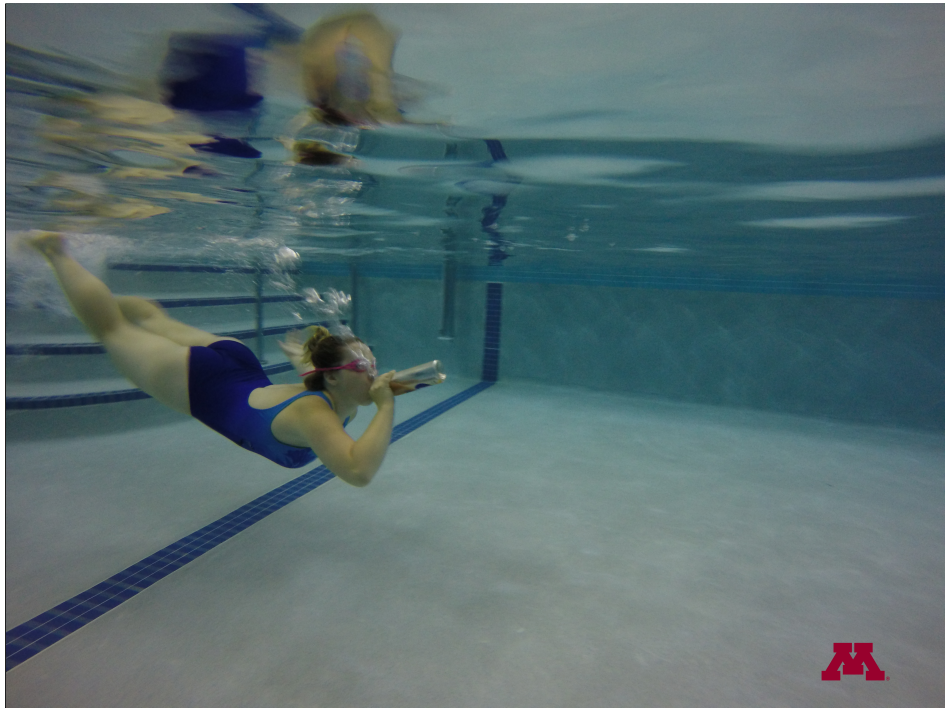
Attribute Listing a Refrigerator



Examples

Doing
Something
Different

8.20. 16




Sport clips
HAIRCUTS

Developing Creativity

Average Standardized Scores [mean=100, SD = 20]

	F2009	F2010	S2011	F2011	S2012	S2015	F2016
pre-test indexed	101.76	115.56	107.17	110.69	111.65	112.4	109.34
pre-percentile	53.51%	78.17%	64.00%	70.35%	71.99%	73.24%	70.35%
post-test indexed	129.35	129.67	129.25	128.01	130.05	132.8	128.67
post-percentile	92.89%	93.10%	92.82%	91.93%	93.35%	96.00%	91.93%
N	50	33	36	80	41	46	63

Collaborative Creativity

Live Creativity

Capture: always be able to record ideas, journal

Surroundings: should be dynamic and divergent

Challenge: tackle tough problems

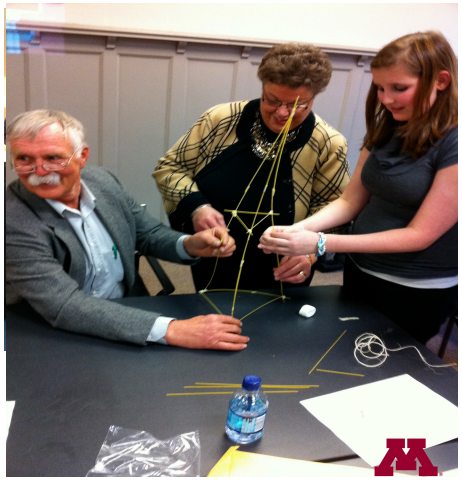
Broadening: diversify and expand knowledge

Daydream: engaged, focused through w/o technology

Collaborative Creativity

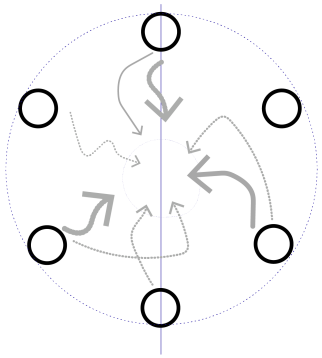
"In jazz, the group has the ideas, not the individual musicians."

Keith Sawyer, 2011



Dorm Brainstorming

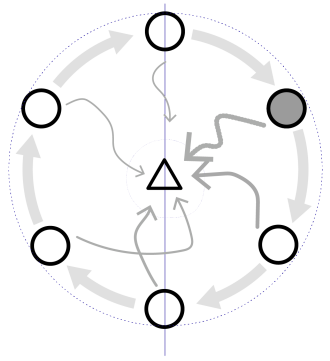
Common exchange of ideas



Dorm Brainstorming

Classic Brainstorming

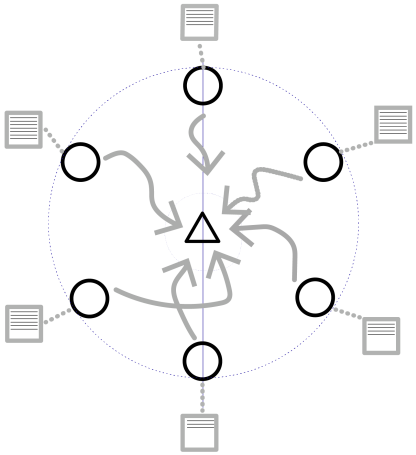
Formal method of idea development [Parnes]



Classic Brainstorming

Nominal Brainstorming

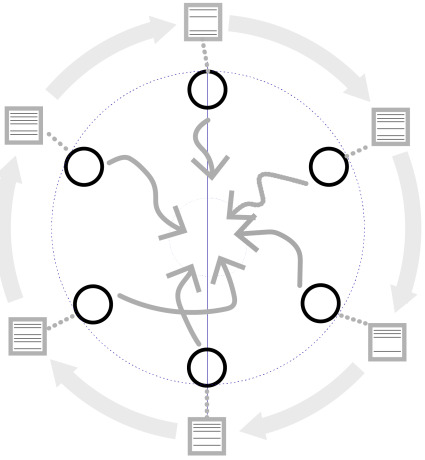
Development of individual ideas prior to group



Nominal Brainstorming

Idea Relay

Linear building on individual ideas



Idea Relay

Idea Relay

your name:

Challenge: Making the library the creative center

Initial idea:

List ten ideas on the back. Pick one or a combination of ideas. Explain what are you trying to do, in details and in the larger sense. Why is that? (This is not a "how" question, but rather more of a "explaining why" question.]

1st Respondent

1. Developing ideas:

Generate a number of different *elaborations* to the first idea ["yes, and…."].

2nd Respondent

2. Restate the goal and add possible ideas

Framing: Paraphrase the original goal, then add possible solutions. ["You could also…."]

3rd Respondent

3. Combine and add alternative ideas

Focus the goal, then add additional possible solutions or combinations.

4th Respondent

4. Improve and develop ideas

Review the proposed solutions, add details, and make new suggestions

Read, summarize, and represent goals and ideas to group, discuss: select an exemplar from the group

Minnesota
Summit on
Learning and
Technology

Questions?

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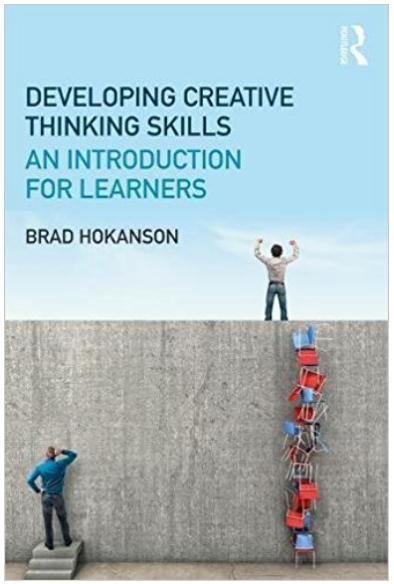

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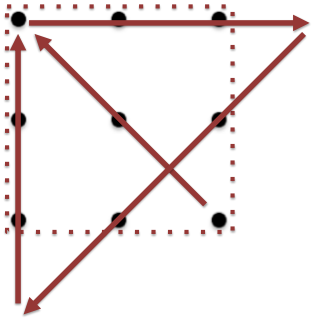
Outside the box

A cliché to describe creativity...



Connect the nine dots with four connected
straight lines without lifting your pencil from the paper.

Shifting educational technology

Changing our directions:

6 + 8 = ?

3 + 11 = 14

-1 + 15 = 14

28 ÷ 2 = 14

Educational Technology

Peer review: both graded and un-graded

Problem based learning: with subjective evaluations

Repetitive training: developing habits of diversity

Habit triggers: timed reminder systems

Diversify: connecting online coursework with 'real' life