Creativity: What It Is, What It Isn't, and How to Help Children Have More of It

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- Contact me via e-mail, Twitter, Facebook, LinkedIn, etc., if you would like a copy of these slides.
  - Contact information provided at the end of this session!

Surprise Quiz!

- How do you define creativity?

My Background

- Undergraduate degree in chemistry
- Master's in gifted education, Ph.D. in educational psychology
- Taught high school chemistry and elementary school science
- Helped create and direct CEEP
- Work in ed policy, gifted education, and creativity
- Collaborations with Partnership for 21st Century Skills, U.S. National Academy of Science, and researchers and educators around the world.

Creativity helps us …

- Solve big problems (Big C Creativity)
  - Global warming
  - Terrorism
  - Trade
  - Diplomatic confrontations
  - Military confrontations
  - Disease

Creativity helps us …

- Solve little problems (little c creativity)
  - Traffic on the way to work
  - Lost on vacation when you do not speak the language
  - Personal problems
  - Making dinner with the wrong ingredients
  - Meeting client needs

Overview

- Why is creativity important?
- Trends in creativity theory and research
- Troubling myths and stereotypes
- Our team's work
  - Defining creativity
  - A New Model for Enhancing Creativity

Why is Creativity Important?

"He had only one idea, and that was wrong."

– Benjamin Disraeli, British prime minister

- The more creative we are, we have:
  - more potential solutions to our problems
  - enhanced evaluative skills
  - the ability to sell our ideas more effectively

Trends in Creativity Theory and Research

Historical Perspectives

- Creativity has been of interest in most of the world's cultures for thousands of years.
  - Usually from philosophical or artistic perspectives.
- The term "creativity" was probably first used by psychologists about 100 years ago.

Creativity Theory: The Golden Years (1920/1950-1970)

- For most of the previous century, the "Four P" approach dominated.
  - Person
  - Product
  - Process
  - Press (Environment)
- Guilford, Torrance

Creativity Theory (1970-1988)

- With few exceptions, creativity theory and research languished during the 1970s and early 1980s.

- Research focused on divergent thinking, both in assessment and education.

Creativity Today

- In the late 1980s, a number of studies and theories emerged.
  - Emphasis on systems theories, which accentuate the role of the interaction between the person and environment.
  - Recent emphasis on sociocultural theories
    - Vlad Glăveanu's 5A framework
    - Beghetto and Kaufman's 4C model
- Contemporary theories are very diverse
  - Economic and Psychoeconomic
  - Educational
  - Social Psychological
- However, they all have the same general implications.

Policy and Creativity

- Historically, policymakers have valued creativity and innovation.
  - Myths and stereotypes led them to incentivize people who were already creative to be innovative.
    - Tax incentives, regulatory relief, etc.
  - Especially in "developed" economies.

Policy and Creativity

- Over the past decade, many countries beginning to emphasize creativity in educational settings.

- 21st Century Skills movement is the current version in many countries.

Lack of Respect for Creativity Research

- Despite this rich history and all the current research – around the world – the field of creativity has serious problems:
  - Perception of creativity as conceptually and empirically weak
  - Conflicting research
  - Preponderance of myths and stereotypes about creativity

Troubling Myths and Stereotypes

Why are there so many myths about creativity?

- Creativity is a construct that fascinates people.

- Most cultures revere creative works and the people who produce them.

- Both the creators and our societies like to keep the creative process mysterious.

- Research has reinforced these myths (unintentionally).

The #1 Myth …

- Creativity cannot be enhanced.

… Enhanceable?

- You would be surprised at the number of people who believe that myth.

- In fact, a surprisingly large % of my students don't believe they are creative.

- EVEN IN CREATIVITY COURSES!

An Alternative Model

- Our work is based on the belief that we can make any person, any group, any family, any company, any classroom more creative.

Should you...

- Tolerate Deviance?
- Use Drugs?
- Take Risks?
- Tolerate Ambiguity?
- Use Creativity Techniques?
- Assess Creativity?

- Avoid Evaluation and External Constraints?
- Be of a Certain Age?
- Use Your Creativity in Only One Area?
- Work With Other People?
- Market Your Creativity?

Tolerate Deviance?

- **Myth or Reality?** Creativity is OK, but we need to guard against deviance.

Myth!!!

Tolerate Deviance...

- Excellence is not just being above average; excellence is *diversity*.

- See Stephen Jay Gould's *Full House.*

Tolerate Deviance...

- Encourage eccentricity.

- But remember that eccentricity may be a matter of personal preference.

Allow students the freedom to be different; create environments where it is safe to be different; help students understand that eccentricity is controllable.

BIG TAKEWAY!

Should you...

Use Drugs?

- **Myth or Reality?** Drug use enhances creativity.

Myth

Surprise Quiz!

- Name as many famous creators who abused drugs as you can!

Use Drugs ...

- There is no convincing evidence that drug use enhances creativity.

- Research suggests that drug use has a negligible short-term effect and detrimental long-term effect on creativity.

Experimenting with drugs in order to be creative is probably an excuse; some evidence, however, that creative students may experiment with drugs because "that's what creative people do."

BIG TAKEWAY!

Take Risks?

- **Myth or Reality? Risk-*taking* is commonly associated with creativity.**

Myth!!!
(sort of)

Take Risks ...

- Not all risk is created equal.

- Blind risk-taking leads to injury and failure as often (if not more so) than to success.

Take Risks ...

- "Quitters never win, winners never quit, but those who never win and never quit are idiots."

- Risk *management* is associated with long-term creative production.

Avoid reinforcing myth that creativity is all about risk-taking; emphasize the value of cost-benefit analysis and other forms of risk management.

BIG TAKEWAY!

Should you...

Use Creativity Techniques?

Myth or Reality? Creativity techniques enhance creativity.

We do not know …

Creativity Techniques ...

- Brainstorming and other techniques *may* work, at least in the short-term.

- Some is better than none.

- If you think it helps, it probably does.

Creativity Technique Examples

- Brainstorming
- Cubing
- SCAMPER
- Creative Imagery
- Blockbusting
- Attribute Listing
- Idea Checklists

- Creative Dramatics
- *CPS Model*
- *DeBono Framework*
- *Synectics*
- *Wallas Model*
- *Consultant-of-the-month*

Don't teach specific techniques out of context; focus more on problem-based learning and attitude change.

BIG TAKEWAY!

Should you...

Avoid Evaluation and External Constraints?

- **Myth or Reality? Creativity is enhanced when evaluation and external constraints are minimized.**

Myth!!!

Avoid Constraints ...

- How often in life do you work without constraints?

  - *Many of the most creative things you've done have resisted the advice of others!*

- Draw a penny

- Amabile replication example

Constraints ...

- Learn how to work creatively within the constraints imposed both by yourself and others.

- When working with others, use sensible constraints and make sure that your expectations are clear.

Constraints are not good or bad; they form the potential limits of one's reality. But they are changeable and ignorable.

BIG TAKEWAY!

Should you...

Be of a Certain Age?

- **Myth or Reality?** Young people are more creative.

Myth!!!

Certain Age ...

- Relationship between age and creative accomplishment in *some* fields.

- Lindauer has found that advanced age has little negative effect (and considerable positive effect) on creativity.

Certain Age ...

- Young people face the same issues.

- An ambitious, talented young person can be seen as a real threat to a parent, teacher, professional, etc.

Age can bring experience; as long as it is tempered with a tolerance for ambiguity, it can only help to enhance creativity. But age and experience aren't a necessary condition for creativity.

BIG TAKEWAY!

Should you...

Use Your Creativity in Only One Area?

- **Myth or Reality?** Creativity is domain- or task-specific.

Myth

Use in One Domain ...

- Some creative skills apply to one content area or another, but many aspects of creativity apply to any content area.

- Research suggests that creativity is 40-60% general with the rest related to specific content areas.

Use in One Domain ...

- Functional Fixedness

- Where do many revolutionary advances come from?

Creativity has both domain-general and domain-specific characteristics; any attempts to enhance student creativity should keep this in mind.

BIG TAKEWAY!

Should you…

Work With Other People?

- **Myth or Reality?** Working with other people enhances creativity.

It depends.

How Valuable is Collaboration?

- Surveys tell us that companies want people who can "collaborate."
  - But do they?
- More likely, they want people with good social and communication skills
  - "Agreeableness"
  - Large percent of students do not perform their best in groups.

Groups foster creativity when:

- group members know each other well

- the group and individuals have clear performance standards

- individual performance is evaluated

- group tasks are meaningful

- group contribution is valued and rewarded

Groups do NOT foster creativity when:

- people are told to "do your best"

- group goals are lacking

- people do not have the freedom to work as individuals <u>within</u> the group

Working in groups and collaborating are not the same thing. Collaboration is a valuable skill; working in groups may not be.

BIG TAKEWAY!

Should you...

Market Your Creativity?

- **Myth or Reality?** One should never "sell out" their creativity.

Really Bad Myth!!!

Market Your Creativity ...

- How do Eminent Creators become eminent?
  - They made sure that we believed they were eminent!

- Gardner's work

- Michelangelo, Freud, Wright, Hawk, South Park guys examples

Provide students with opportunities to share their work with others; that includes being able to convince teachers that their work is creative.

BIG TAKEWAY!

Our Research:
Defining, Studying, and Enhancing Creativity

Why These Myths?

- We believe the problems are due to the lack of a common definition.

- Without a common definition of creativity, research only reinforces these stereotypes and myths.

A Definition of Creativity Should Be Able to Explain …

- … that creativity may look different in different contexts.

- … that creativity is the result of a diverse set of influences.

- … that creativity is often in the eye of the beholder.

A Definition of Creativity Should Also Be Able to Explain …

- … how the behaviors of a 10-year-old may be creative while the same behaviors by a 40-year-old may not be creative.

- … why the work of schizophrenics may be original but not creative.

Our Definition

- Creativity is the interaction among *aptitude, process, and environment* by which an individual or group produces a *perceptible product* that is both *novel and useful* as defined within a *social context.*
  - Plucker, Beghetto, & Dow (2004)

Traditional Model of Creativity Training

- First, teach students to use creativity techniques and strategies.
  - E.g., brainstorming, SCAMPER
- Second, MAYBE practice applying these techniques in different areas.
- Third, MAYBE examine how the environment impedes or promotes creativity
- Fourth, MAYBE address beliefs and attitudes about creativity and problem solving

Our Model of Creativity Training

Address *attitudes and beliefs* **about creativity**

Introduce creativity techniques *in context* **when students are** *ready to use them* **psychologically**

Introduce a proactive approach to interacting with and modifying the environment

After opportunities to transfer, revisit process

Where to go from here?

- We can make any person, any group, any family, any company, any classroom more creative.

- When we focus on external factors, we remove the responsibility for creativity from individuals and groups.

Where to Start?

- Ensure students are not punished for providing an unexpected and potentially correct answer or using an unexpected strategy.

- Include lots of real-world problem-based learning activities.

- Provide students with opportunities to present and explain their work.

- Create an environment in which students feel comfortable experimenting and possibly failing.

Just Do It!!!

- "An ounce of action is worth a ton of theory."
  - F. Engels

- Maslow example

Thank You

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