PROMOTING DIVERGENT THINKING IN A CONVERGENT CURRICULUM

Infusing Components of Creativity into the Regular Curriculum
Presented by Laurel Brandon, University of Connecticut
WHY INFUSE CREATIVITY?

WORKPLACE PERSPECTIVES

Creative candidates get hired.

Why Infuse Creativity?

Creativity is critical to economic growth.

Are students ready for today's dynamic workplace?

7 in 10 say no.

Several inching managers agree that students are unprepared and lack the necessary skills for success.

Which skills have gained the most value in driving salary increases in the last five years?

Problem solving 51%

Creativity 47%

What skills are becoming most essential for new hires to possess?

Web-savvy 88%

Communication through social media 82%

Creativity 76%

Creative Leaders

Expect to make more business model changes to realize their strategies.

Invite disruptive innovation, encourage others to drop outdated approaches and take balanced risks.

Consider previously unheard-of ways to drastically change the enterprise for the better setting the stage for innovation that helps them engage more effectively.

are comfortable with ambiguity and experiment to create new business models.

score much higher on innovation as a crucial capability and more of them expect to change their business models.

Which includes CEOs and their teams – are courageous and visionary enough to make decisions that alter the status quo.

Will invent new business models based on entirely different assumptions.

For the complete study, visit www.adobe.com/go/edu creative study.html

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GOALS FOR TODAY

- Review principles of differentiation and its influence on motivation
- Understand creativity:
  - What makes something creative
  - Convergent and divergent thinking
  - Four components of divergent thinking
- Identify key content and process skills in standards
- Design standards-based learning choices around the components of divergent thinking
Differentialiation

What can we differentiate?
• Content
• Process
• Product
• Affect/Environment

Considering:
• Readiness
• Interest
• Learning profile
(Tomlinson, 2001)

Why are these motivating?
• Competence – I can do or learn this
• Autonomy – I am in control
• Relatedness – I care about others and am cared about by others

When people experience competence, autonomy, and relatedness, they are more intrinsically motivated.
(Deci & Ryan, 1985)
CHOICE AND CREATIVITY

• Offering choices promotes autonomy
• Choices based on creative thinking processes or creative products allow students to practice creative thinking
• But not all choices are created equal!
• Intentional design promotes learning of key content and processes as well as creative thinking skills

Pilgrims Choice Board

| Make a pilgrim hat. | Write an acrostic poem using the word MAYFLOWER. | Draw a picture of the first Thanksgiving.

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WHAT IS CREATIVITY?

There are many definitions, but researchers generally agree that in order for something to be considered creative, it must be:

• Novel (in context)
• Task-appropriate

(Plucker, Beghetto, and Dow, 2004)

Are Hope’s answers “creative”? 
15 year old Jack Andraka invents new method of diagnosing cancer, thus saving the lives of millions of people around the world...

...and it is 168 times FASTER, 26,000 times CHEAPER, 400 times MORE SENSITIVE, and has a 99% SUCCESS RATE!

Source - Forbes Magazine
TWO TYPES OF THINKING

Convergent Thinking

Fact => Fact => Fact => Fact

Divergent Thinking

? => Issue => ?

Fact

Fluency
Flexibility
Originality
Elaboration

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FLUENCY

Thinking of many ideas

• List
• Label
• Identify
• Count

How many… can you think of?

Fluency requires some knowledge, but it is not limited to reciting known ideas.

In one minute, list as many uses as you can for a paperclip!
FLEXIBILITY
Thinking of different ideas
• Think of categories…
• How is ____ like ____?
• How would… see it?
• **What different… can you think of?**

Flexibility includes thinking of many categories and considering multiple perspectives

What different types of paperclip applications can you think of? (1 minute)
ORIGINALITY
Thinking of new ideas

• Design
• Create
• Modify
• Reconstruct

• What would no one else think of?

Originality is about thinking of unique, novel ideas.

What unique ways could a paperclip be used? (1 minute)
ELABORATION
Thinking of detailed ideas
• Add to
• Fill in
• Look closer
• Make more complex
• What else can you tell me about it?

Elaboration is about expanding ideas through increased detail

What details could be added to your paperclip idea? (1 minute)
MAY THE FOURS BE WITH YOU: CONTENT AREA EXAMPLES

Math: In one minute, think of as many ways as you can for two values to sum to 10.

Science: Use your magnifying glass to look closely. Describe the owl pellet in as much detail as possible.

Reading: How is the main character like a bouncing ball?

Social Studies: Think of many things an archaeologist might find that could help them to understand the culture of an ancient people.

Writing: What wouldn’t your character choose to do next? Write what would happen if they made that choice.
1. Choose your standard: VA English SOL 4.6 (d, e)
4.6 The student will read and demonstrate comprehension of nonfiction texts. 4.6 d) Identify the main idea. 4.6 e) Summarize supporting details.

2. Identify the key content and process skills

3. Choose a component of creativity to emphasize, or think of ideas for all:
   • Fluency- Think of many details that would support the main idea “Cats are not only cuddly, they are also useful!”
   • Flexibility- What are three different main ideas that this detail would support? “The average American wastes 4.3 pounds of leftover food, recyclable material, and trash every day.”
   • Originality- Use a supporting detail from the text to create an exciting title that hints at the text’s main idea.
   • Elaboration- Imagine you are the author of this article, and your editor says that you need more details to support your main idea. What details would you add (or look up) to further support the main idea?
A CREATIVE LESSON

Must:

• Teach/practice key content and/or process skills
• Promote long-term Understandings and not just isolated skills
• Use time effectively
• Be engaging
• Not only be “unusual uses”
• Not only be “arts and crafts”

Ideally should:

• Offer choice
• Support extension after the learning
• Be interdisciplinary
• Be light on prep
• Be easy to adapt to different readiness levels
• (projects) Have potential for an audience outside of the classroom

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1. Choose a standard from the four at your table. Identify its key content and process skills.

2. Working as a team or on your own, think of an activity that reinforces the key content and process skills for each of the four components of creative thinking. For a multi-part standard, focus on just one part.

- Fluency
- Flexibility
- Originality
- Elaboration
LET’S GIVE THIS A TRY (STANDARDS)

• Math: 1.11 The student will use calendar language appropriately (e.g., names of the months, today, yesterday, next week, last week).

• Reading: 3.4g Use word reference resources including the glossary, dictionary, and thesaurus.

• Math 6.17 The student will identify and extend geometric and arithmetic sequences.

• Reading: 7.8 The student will edit writing for correct grammar, capitalization, punctuation, spelling, sentence structure, and paragraphing.
SELF-ASSESSMENT: WHAT ARE YOU READY FOR?

• I feel confident that I can identify key content and process skills in standards, and I am ready to design interdisciplinary standards-based learning choices around the components of divergent thinking

• I understand how to identify key content and process skills in standards, and I am ready to design standards-based learning choices around the components of divergent thinking

• I am beginning to understand how to identify key content and process skills in standards, and I would like assistance to design standards-based learning choices around the components of divergent thinking

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SELF-ASSESSMENT: WHAT ARE YOU READY FOR?

• Work with a cross-disciplinary team. Identify common content and/or process skills across standards from the various disciplines, and design creative task choices that promote FFOE along with those content and process skills.

• Choose a standard you are preparing to teach. Identify the key content and process skills of that standard. Design a set of choices that promote FFOE along with that standard’s key content and process skills.

• Choose a standard you are preparing to teach and identify the key content and process skills. Brainstorm several possible learning activities that support the key content and process skills. I will come to help you identify and develop activities that promote creative thinking.

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For Further Reading


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