Creativity in the Classroom: Promoting Divergent Thinking

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Roadmap

- Group Challenge (5)
  - Share - # and most creative

- Why is creativity needed in education? (2)

- What is divergent thinking? (3)

- Strategies to Promote Divergent Thinking (8)

- Group Reflection/Brainstorm (10)

- Share Out (2)

- Closing
The Paper Clip Test

- Think of as many uses as you can for a paper clip. List the things you come up with.
CHANGING THE PARADIGM

I BELIEVE WE NEED TO GO...

IN THE EXACT OPPOSITE DIRECTION
Breakpoint and Beyond: Mastering the Future Today, George Land & Beth Jarman

Tested how creative capacity changed over time.
- As kindergarteners, 98 percent scored at genius level in divergent thinking.
- At ten years old, 32 percent of the same group scored as high
- By age fifteen, only 10 percent made the cut.
- When 200,000 adults were given the same test, only two percent tested at the genius level.
Why creativity?

“Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research.”

- Albert Einstein
Why creativity?

- Many of our current students will work in jobs or pursue careers that don’t yet exist.
- Simply learning a specific skill set or a body of discrete facts will not equip them to be adaptable, innovative, entrepreneurial.
- Creative problem solving prepares students for life beyond the classroom.
## Divergent and Convergent Thinking

<table>
<thead>
<tr>
<th>Convergent</th>
<th>Divergent</th>
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<tbody>
<tr>
<td>Restricts to the correct or “best” answer</td>
<td>Explores possibility without limits</td>
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<tr>
<td>Analytical/Evaluative</td>
<td>Generative/Creative</td>
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<tr>
<td>Standardized Testing, Memorization, Rote learning</td>
<td>Open-ended projects, problem-based learning, discussion, collaboration</td>
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Divergent Thinking Qualities

- Defer judgment
- Strive for lots of possibility
- Seek novelty
- Make connections
Divergent Thinking Strategies

- **Break the Question/Answer Paradigm:**
  - Ask open questions (as opposed to closed, yes/no)
    - How would you describe ________?
    - What is known and unknown about ________?
    - What are some other ways to look at ________?
  - Flip the sequence and have students devise questions
Divergent Thinking Strategies

- **Open-Ended Projects, Real World Problems:**
  - Involve students in determining problems/questions to which they’ll apply their new learning. Require research and collaboration.
  - Students pose problems by tapping into their own lives and real-world challenges. For example,
    - “Prepare a case on a compelling human rights issue to be argued before the South African Constitutional Court”
    - “Devise a way that we can grow vegetables without using pesticides”.
  - Offer guidelines for students to follow, but allow flexibility in process and product.
Divergent Thinking Strategies

**Inquiry-based Feedback:**

- Instead of simply value-based marks, combine inquiry and deep observation for more open-ended, in-depth feedback.
- Teachers can offer questions and observations and have students revise their work based on the feedback. This approach can also be used for peer evaluation.
- Phrases such as, "I noticed that . . .?," "why . . .? ,” "how . . .?”, “what would happen if you. . .?"
Divergent Thinking Strategies

- **Highlight innovation:**
  - Design classroom awards or bulletin boards to showcase students’ different ways of solving a problem, or shout-out their creative solutions to a real world scenario or challenge they faced.
Divergent Thinking Strategies

- Don’t limit assignments to one format
  - You can provide them the subject to cover, but give them some freedom in how they complete it. When you allow more formats in the way students create and learn, they’ll have more opportunities to engage with the work they do and will become more invested in it.
Divergent Thinking Strategies

- Create Space for Student Questions/Thoughts
  - Encourage curiosity by creating a bulletin board or online discussion board where students can continue to engage after the lesson through questions or comments. Once a week, intentionally address those questions.
Divergent Thinking Strategies

- Introduce unconventional learning materials
  - TED talks
  - Podcasts
  - Daily newspaper
  - Artifacts
  - Music
  - Visuals
Divergent Thinking Strategies

- **Encourage discussion**
  - Even in math & science, they can discuss the different ways they approached a problem and
    - think more deeply about the material.
    - learn to better communicate their ideas and opinions.
    - listen to other students’ opinions and think critically about their contributions and ideas.
    - challenge each other intelligently and build off of each other’s ideas.
Divergent Thinking Strategies

- **Design multidisciplinary lessons when possible.**
  - History and English teachers could collaborate to teach a particular time period and the literature from that time period at the same time.
  - A lesson or unit on “Geometry through Art” could explore the way geometric concepts are employed in visual arts.
Divergent Thinking Strategies

- **Creative class warm ups**
  - Incorporate quick puzzles at the beginning of class to activate student thinking and engagement.

- When does 1 + 1 = 24?
- You are only allowed to move/touch one glass. Describe what you need to do so that the full and empty glasses alternate.
Group Reflection on Divergent Thinking

Six thinking hats

What are my powers when wearing each hat?

Asking questions:
- What do we know?
- What do we need to know?
- How do we get this information?

Expressing emotion:
- What are my gut feelings?

Judging:
- What are the difficulties & weaknesses?

Being optimistic:
- What are the strengths & opportunities?

Being creative:
- New ideas?
- New opportunities?
- How can it be improved?

Thinking about thinking:
- What’s been learned?
- What’s next?
Reflection

- What activities or lessons have you used to inspire divergent (out-of-the-box) thinking in the classroom?
- What are the barriers to incorporating divergent thinking strategies in your subject or age-group of learners?
- How can you adapt the strategies we discussed (or create new ones!) to encourage divergent thinking in your students? (inside or outside of class time)
Divergent thinking is more than thinking outside the box; it’s thinking without the box and seeing possibilities that others have yet to see.

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Thank you!!!