

Fostering Creative Thinking and Innovation

A Few Practical, Research-based Strategies

Handout for the Keynote Workshop in Suffolk University's
2017 Symposium on Innovation in Teaching & Learning

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Some common beliefs about creativity and innovation we might examine

Directions – Please mark each statement in the list below in the following way:

If you agree with the statement, put a plus sign (+) in front of it;

If you disagree, put a minus sign (–) in front of it; or

If you are unsure, put a question mark (?)

1st Response

2nd Response

- | | |
|--|---------|
| ___ 1. Talent (of the genetic sort) matters a lot in creativity | 1. ___ |
| ___ 2. You need a high IQ to be big-C Creative | 2. ___ |
| ___ 3. Creativity and invention are one and the same thing | 3. ___ |
| ___ 4. Creativity and innovation are one and the same thing | 4. ___ |
| ___ 5. How creative individuals create is still a mystery | 5. ___ |
| ___ 6. Group brainstorming is a productive first step in innovation | 6. ___ |
| ___ 7. Most important innovations were created by individuals working alone | 7. ___ |
| ___ 8. The more expertise you have, the more creative you are likely to be | 8. ___ |
| ___ 9. The less expertise you have, the more creative you are likely to be | 9. ___ |
| ___ 10. Younger people (under 30) are generally more creative than older ones | 10. ___ |
| ___ 11. The more creative you are, the more ethical you are likely to be | 11. ___ |
| ___ 12. Prizes and other incentives promote creativity and innovation | 12. ___ |
| ___ 13. Criticism inhibits creative thinking and innovation | 13. ___ |
| ___ 14. Rules and similar constraints inhibit creative thinking and innovation | 14. ___ |
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A few questions we might consider . . .

1. What do we mean by creative thinking?
 2. Is there more than one “flavor” of creative thinking?
 3. What “habits of mind” does creative thinking require?
 4. What kinds of creative thinking do our courses promote? foster? require?
 5. What kinds of creative thinking do employers want? (And should this matter?)
 6. How does creative thinking relate to problem solving (PS)?
 7. What kinds of “problems” require creative solutions?
 8. Can we/How can we effectively teach creative thinking & PS?
 9. Can we/How can we effectively assess creative thinking & PS?
 10. _____(your question)
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Directed Paraphrasing

In 1 or 2 brief sentences, describe or define what creative thinking looks like when your students do it well – or what it would look like if they could do it well – by the end of a course you teach or program you lead.

Creative Thinking . . .

Some key terms and concepts that might be of use

- Extrinsic and intrinsic motivation
 - Tolerance for ambiguity
 - Deliberate practice
 - Generativity
 - Systematic variation
 - Closure
 - Simple, Complicated, Complex and Super-complex problems
 - Analogies
 - Algorithms
 - Concept maps
 - Portfolios
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Applications Card

DIRECTIONS: Please take a moment to recall and list the ideas, techniques, and strategies we've discussed – and those you've thought up – to this point in the session.

**Interesting
IDEAS/TECHNIQUES
from this session**

**Some possible
APPLICATIONS of those
ideas/techniques to my work**

A Few Possibly Useful References on Creativity and Innovation

- Ariely, D. (2012). *The (Honest) Truth about Dishonesty: How We Lie to Everyone – Especially Ourselves*. New York: HarperCollins.
- Burkus, D. (2014). *The Myths of Creativity: The Truth about How Innovative Companies and People Generate Great Ideas*. San Francisco: Jossey-Bass.
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- Daly, S.R., Mosyjowski, E.A. & Seifert, C.M. (2014). Teaching creativity in engineering courses. *Journal of Engineering Education*, 103(3), 417-449.
- DeHaan, R.L. (2009). Teaching creativity and inventive problem solving in science. *CBE-Life Sciences Education*, 8, 172-181.
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- Kaufman, J.C. & Sternberg, R.J. (2010). *The Cambridge Handbook of Creativity*. New York: Cambridge U. Press.
- Kruger, J. & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence leads to inflated self-assessments. *Journal of Personality and Social Psychology*, 77(6), 1121-1134.
- Ness, R.B. (2011). Teaching creativity and innovative thinking in medicine and the health sciences. *Academic Medicine*, 86(10), 1201-1203
- Runco, M.A. (Ed.) (2003). *Critical Creative Processes*. Cresskill, NJ: Hampton.
- Sawyer, R.K. (2012). *Explaining Creativity: The Science of Human Innovation*. New York: Oxford U. Press.
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Space for Creative Thinking & Innovation . . .