

Creativity in Education

Mumford (2003) defined creativity as generating something new and valuable that is tangible (as in a literary work) or intangible (as in an idea or theory).

Creativity Theories

Kaufman & Beghetto's Creativity Theory (2009) (4 C model)

- Mini c – personal meaning making
- Little C – recognition of creator's mini c idea/creation
- Pro C – value to community
- Big C – eminent extraordinary accomplishments.

Emphasize is on person as creativity's primary source.

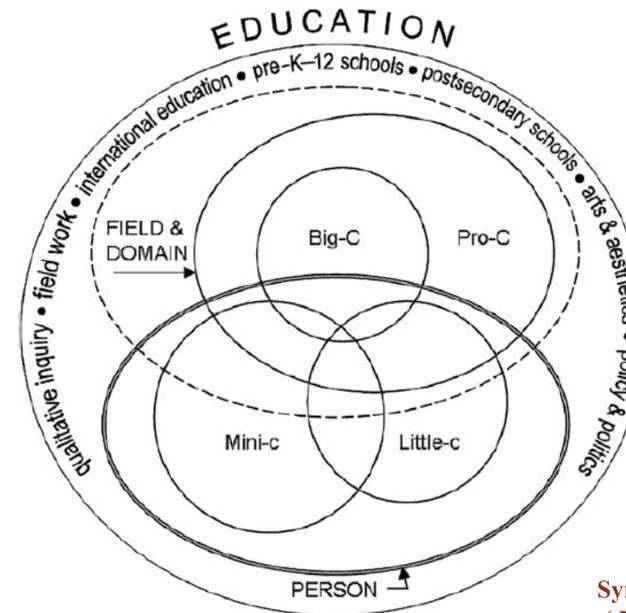
Creator and environment interactively influence creative processes and outcomes

Csikszentmihalyi's Creativity Theory (1996) (systems model)

- Domain – (macro- set of symbolic rules and procedure)
- Field– next level macro includes gatekeepers to the domain
- Person – micro

Definition leaves out creativity of everyday life (Richards, 2007)

Creator de-emphasized
Emphasize on environment/culture



Complementary perspectives on creativity as applied to education.

Synthesis of the 4C and systems models of creativity (Mullen 2017)

Creativity research as a domain is shifting away from elite , culturally dominant activities to everyday creativity of common people (including teachers' and learners' creative processes and interactions within a given setting.

Creativity in educational context

Moving from describing creativity as an attribute/entity to a phenomenon.

Creativity as an entity

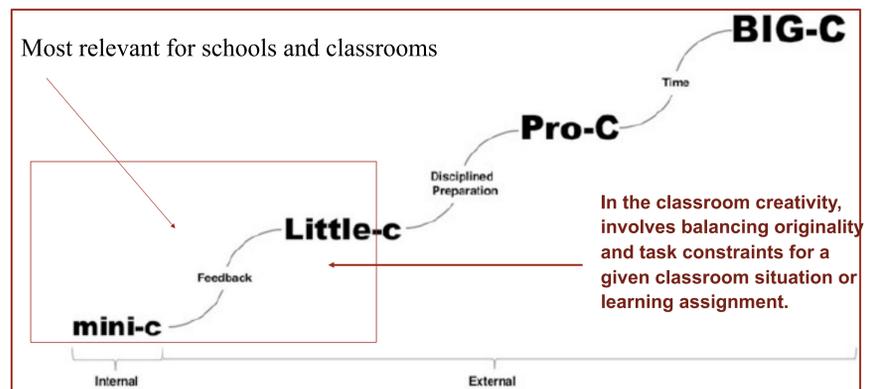
- Creativity has its own distinct existence.
- Something that individuals possess.
- Can be given or taken away



Creativity as a phenomenon

- Creativity is a distinction we bestow on particular experiences, ideas, actions and artifacts.

(Beghetto 2019)



Hidden c- creative beliefs and behaviors that trigger the personal power of creativity and capacity for engaging in dynamic creativity (Mullen 2018)

- Creativity distinction made on dual criteria:
1. Originality (Different levels of magnitude as show in 4C model).
 2. Meeting contextual task constraints

Uncertainty is a catalyst for creativity. Impasse in planned experiences provide opportunity for new/potentially creative outcomes.

- Structured uncertainty (providing students opportunities to work through uncertainties in a well-planned learning environment)
 - Working differently inside the box
 - Lesson Unplanning (Remove one component of problem, process, product, criteria from planned lesson or activity)

Creative Learning Activity=Unique student response X Meeting teacher defined criteria

Creativity in Education (continued)

Creative Learning

- Most Scientific theories of learning and creativity reflect behaviorist and cognitive legacies of the twentieth century.
- Connectivity and collaboration are at the core of how people learn and express their creativity.
- The Sociocultural theory provides a suitable framework for the distributed nature of creativity and learning in the age of internet.
- The perspective model model (Glaveanu, 2015) postulates that creative learning emerges out of two inter-related processes:
 - Repositioning oneself in relation to situation or problem.
 - Creating new meaning by placing multiple perspectives in dialogue with each other.

Creativity emerges out of differences. Educating children with more than one perspective on things help them reflect about differences in perspective and use these differences to generate new and potentially creative ideas.

Fostering Creative Ecologies

- Harris (2017) identified four main areas for creative improvement :
 - Creative facilitators (complex collaboration across social groups)
 - Creative environments (dynamic “incubation bed”, inter-disciplinary connectivity; “what if moments” , “possibility thinking”)
 - School leadership (encourage productive risk taking)
 - Policy change (for macro-level changes)
- Use of a **Creative Ecological Approach in which** high-stakes testing for university entrance and rankings can (and should) live together with productive risk-taking and creative experimentation
- Standardizing and use of holistic tools like the Harris Whole School Creativity Audit that measures:
 - School policies and practices
 - The product (curriculum, assessment, timetabling)
 - The process
 - The school environment
 - Creative partnerships
- Tying metacognitive and individual measures of creativity to environmental enhancement, recognizing the networked nature of creativity development

Shift from “Schools kill creativity” and standardized testing and creativity cannot coexist.

Multinational employers and global markets are moving toward an ecological approach, with hiring practices shifting toward those with good leadership and group skills and those attending to improving the environment and work/collaboration practices. (Harris & Bruin, 2017)

(The creative turn: Creativity and Innovation in Secondary Schools (Harris .2016))

Five-Point Star Model for integrating Creativity

A Model to incorporating creative thinking into the school system, without disruption to the existing systems (Burnett & Smith, 2019)

1. Understanding Creativity

- Misconceptions (Creativity is artistic ability, Creativity and academic content are separate exclusive goals, Creativity is only for especially talented or intelligent, You have creativity or you don't, Creativity breeds Chaos)
- Facts (Creativity is Transdisciplinary, Creativity is for everyone, Creativity can be developed, Creativity has a time and place (creative metacognition)

2. Teachers Recognize their own creativity

- Personal creative strengths and preferences in applying creativity

3. Developing a creative environment

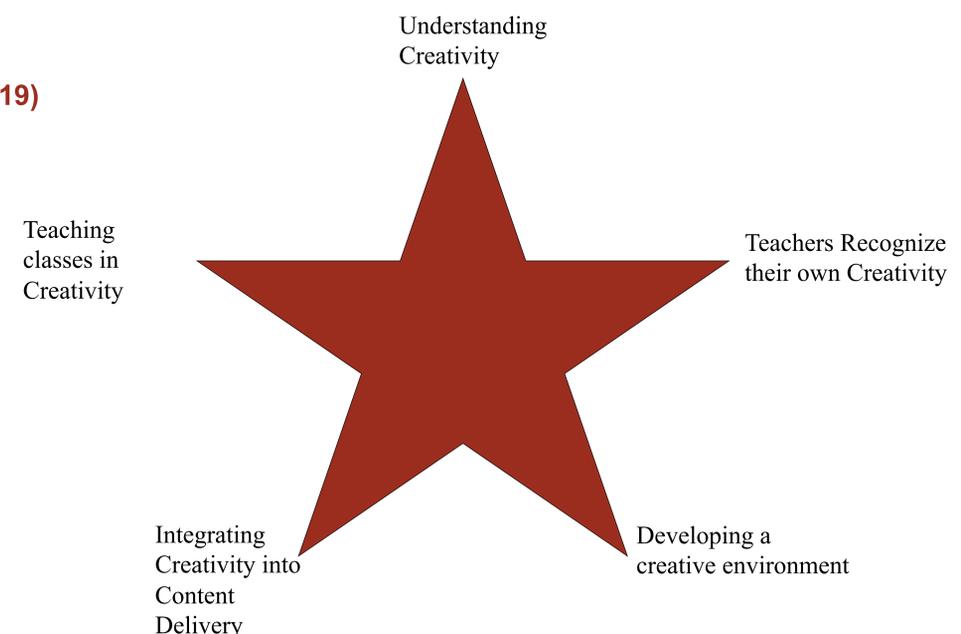
1. Physical structures and contents (open ,spacious, flexibility to move around)
2. Psychological attribute (climate- provides cognitive basis for idea generation and encourages actions required for implementation)

4. Integrating Creativity into Content Delivery

Eg. Torrance Incubation Model of Creative Teaching and Learning (Torrance & Safter,1990)

5. Teaching Classes in Creative Thinking

Include creative thinking programs as part of curriculum eg. Odyssey of the Mind, Destination Imagination, Future City, Design thinking etc.



Creativity in Education (continued)

CATs Model for Creativity

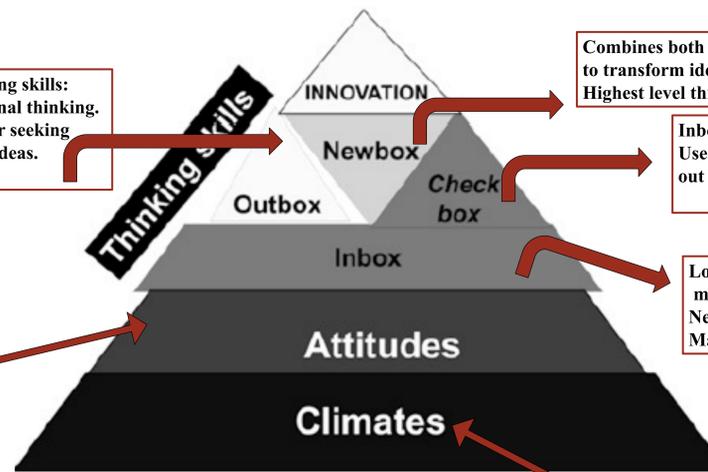
CATs model is a research-based model to cultivate creative **C**limates, nurture creative **A**ttitudes, and develop creative **T**hinking skills (CATs) in students (Kim,2016).

- **Creative thinking Skills – ION** (Inbox , Outbox, Newbox Thinking skills)
 - Attitudes facilitate thinking skills
- **Creative Attitudes – 4S Attitudes** (Sun, Storm, Soil, Space attitudes)
 - Climates nurture respective attitudes.
 - 27 creative attitudes
- **Creative Climates – 4S Climates** (Sun, Storm, Soil, Space climates)
 - Children are born curious and unique with an innate capacity for creativity.
 - Their creative attitudes and thoughts can be nurtured by their climates.
- **ION thinking and the 4S attitudes are teachable and learnable skills.**
- **Can be practically integrated in educators’ pedagogical practices.**

“Various factors influence the development of creative potential, including everything from individual differences to the kinds of experiences and opportunities that creators experience throughout the lifespan. When it comes to nurturing creativity in the classroom, the learning environment is one of the most important factors - determining, in large part, whether creative potential will be supported (or suppressed).” (Beghetto & Kaufmann, 2014)

- 1. Sun attitudes** – individuals’ big ideas and playfulness to sustain curious impulses. Nurtured by sun climate of inspiration and encouragement. Helps develop outbox imagination. Optimism, Big picture thinker, Curious, Spontaneous, Playful, Energetic.
- 2. Storm attitudes** – individuals’ strengths to persist with and overcome challenges. Nurtured by the storm climate that provides high expectations and challenges. Help develop inbox expertise. Independent, Self disciplined, diligent, self efficacious, resilient.
- 3. Soil attitudes**- individuals’ open, complex minds that find diverse resources and others’ strengths and leverage these. Nurtured by the soil climate that provides diverse resources, experiences, and viewpoints. Facilitates inbox critical thinking. Open-mindedness, bicultural, mentored, complexity-seeking, resourceful
- 4. Space attitudes** – individuals’ nonconforming ideas or expressions that challenge the status quo and authorities. Nurtured by the space climate that provides space to think deeply and freely, which develops individuality and originality. Help broaden outbox imagination. Emotional, Compassionate, self-reflective, daydreaming, autonomous, non-conforming, gender-bias-free, defiant.

Set of higher-level thinking skills: fluent, flexible, and original thinking. Unfocused and broad, for seeking nonconforming, unique ideas.



Combines both inbox-critical thinking and outbox imagination to transform ideas, answers, or solutions into a new creation Highest level thinking skills such as synthesis and refinement

Inbox critical thinking skill. Used for critically analyzing, and evaluating the out box generated solutions for their usefulness.

Lower level includes lower-level thinking skills memorization, comprehension, and application. Necessary foundation for developing expertise. Mastery required for Creative thinking

- 1. Sun climate** – Playful introduction of topics, inspire students to pursue big ideas, playfully explore and develop interest through real life examples and applications.
- 2. Storm climates** – Students are provided brutal , honest feedback to develop a specific strength. Provides high expectations and challenges students to build their resilience , persistence and risk-taking skills.
- 3. Soil climate** – provides students with diverse resources, experiences, and viewpoints.- includes people (e.g., mentors or non-peer collaborators), knowledge (e.g. academic and independent learning), things (e.g.-learning tools or objects), and perspectives (e.g., different intellectual, fields, or cultural perspectives). Promotes cross-pollination.
- 4. Space climate** – Allows students to experience a space where they can think deeply and freely, take time to develop their own individuality through questioning and learning, challenge rules and authorities by asking new questions and finding alternative answers.

References

- Beghetto, R. A. (2019). Structured Uncertainty: How Creativity Thrives Under Constraints and Uncertainty. In *Creativity under duress in education?: Resistive theories, practices, and actions* (pp. 27–40). essay, Springer International Publishing.
- Burnett, C., & Smith, S. (2019). Reaching for the Star: A Model for Integrating Creativity in Education. In *Creativity under duress in education?: Resistive theories, practices, and actions* (pp. 179–200). essay, Springer International Publishing.
- Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. Sternberg (Ed.), *Handbook of creativity* (pp. 313–335). Cambridge, UK: Cambridge University Press.
- Glăveanu, V. P., Lubart, T., Wasson, B., & Ness, I. J. (2019). Sociocultural Perspectives on Creativity, Learning, and Technology. In *Creativity under duress in education?: Resistive theories, practices, and actions* (pp. 63–82). essay, Springer International Publishing.
- Glăveanu, V. P., & Gillespie, A. (2015). Creativity out of difference: Theorising the semiotic, social and temporal origin of creative acts. In V. P. Glăveanu, A. Gillespie, & J. Valsiner (Eds.), *Rethinking creativity: Contributions from social and cultural psychology* (pp. 1–15). New York, NY: Routledge.
- Harris, A. (2016). *Creativity and education*. London, UK: Palgrave Macmillan.
- Harris, A. (2017). Creative ecologies: Fostering creativity in secondary schools. [Final Report]. Retrieved from <https://www.creativeresearchhub.com>
- Harris, A., & de Bruin, L. R. (2017). STEAM Education: Fostering creativity in and beyond secondary schools. *Australian Art Education*, 38(1), 54–75.
- Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The four C model of creativity. *Review of General Psychology*, 13, 1–12. doi: 10.1037/a0013688
- Kim, K. H. (2016). *The creativity challenge: How we can recapture American innovation*. Amherst, NJ: Prometheus.
- Kim, K. H., & Chae, N. (2019). Recapturing American Innovation Through Education: The Creativity Challenge for Schools. In *Creativity under duress in education?: Resistive theories, practices, and actions* (pp. 215–233). essay, Springer International Publishing.
- Mumford, M. D. (2003, January 1). Where Have We Been, Where Are We Going? Taking Stock in Creativity Research. *CREATIVITY RESEARCH JOURNAL*, 15(2/3), 107–120.
- Mullen, C. A. (2017). *Creativity and education in China: Paradox and possibilities for an era of accountability*. New York, NY: Routledge and Kappa Delta Pi.
- Mullen, C. A. (2018). Creative learning: Paradox or possibility in China’s restrictive preservice teacher classrooms? *Action in Teacher Education*, 40(2), 186–202. <https://doi.org/10.1080/01626620.2018.1424054>
- Mullen, C. A. (2019). *Creativity under duress in education?: Resistive theories, practices, and actions*. Springer International Publishing.
- Richards, R. (2007). Everyday creativity: Our hidden potential. In R. Richards (Ed.), *Everyday creativity and new views of human nature: Psychological, social, and spiritual perspectives* (pp. 25–53). Washington, DC: American Psychological Association. <https://doi.org/10.1037/11595-001>
- Torrance, E. P., & Saifer, H. T. (1990). *The incubation model of teaching: Getting beyond the obvious*. Buffalo, NY: Bearby.