

# Toward a Broader Conception of Creativity: A Case for “mini-c” Creativity

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In this article the authors argue that a new category of creativity, called “mini-c” creativity, is needed to advance creativity theory and research. Mini-c creativity differs from little-c (everyday) or Big-C (eminent) creativity as it refers to the creative processes involved in the construction of personal knowledge and understanding. The authors discuss how the category of mini-c creativity addresses gaps in current conceptions of creativity, offers researchers a new and important unit of analysis, and helps to better frame the domain question in creativity research. Implications for creativity research are also discussed.

*Keywords:* creativity, conceptions of creativity, creativity theory, mini-c creativity

The rise in creativity research often is attributed to J. P. Guilford’s 1950 presidential address to the American Psychological Association. Although there were studies of creativity prior to the 1950s, Guilford is credited with persuading psychologists of the need and possibility for scientific studies of creativity (Runco, 2004a). In particular, Guilford (1950) challenged psychologists to focus on the discovery and cultivation of creativity in schoolchildren. Guilford’s focus on the creativity of children in schools was the upshot of his recognition of the relationship between creativity and learning; many classic learning theorists have shared this view, including Piaget and Vygotsky (see Sawyer et al., 2003).

Although the relationship between learning and creativity was a key focus of Guilford’s presidential address, the years that followed have often concentrated on other facets of creativity. Indeed, much of the research of the past half-century has studied accomplished (often times eminent) creators (e.g., Simonton, 1994). Although the scholarship has included efforts aimed at understanding the everyday nature of creative thinking (e.g., Richards, Kinney, Benet, & Merzel, 1988; Runco & Bahleda, 1986), far less has considered the role that creativity plays in the development of new and personally meaningful knowledge (Beghetto & Plucker, 2006).

We argue, following Cohen (1989), that creativity researchers need a broader conceptual framework for considering the developmental nature of creativity. Indeed, current conceptions of creativity fall short in this regard. The aim of the present article is to address this need. Specifically, we endeavor to contribute to creativity theory and research by expanding current conceptions of creativity to include what we term “mini-c” creativity.

Creativity is typically defined as the ability to produce work that is novel (i.e., original, unexpected), high in quality, and appropriate (i.e., useful, meets task constraints; Sternberg, Lubart, Kaufman, & Pretz, 2005). We see mini-c as sharing some overlap with traditional conceptions, with some important distinctions. We define mini-c creativity as *the novel and personally meaningful interpretation of experiences, actions, and events*. Our definition draws on Runco’s (1996, 2004b) conception of “personal creativity” as well as recent developmental conceptions of creativity (Beghetto & Plucker, 2006; Cohen, 1989; Sawyer et al., 2003). Importantly, the novelty and meaningfulness of these interpretations need not be original or (even meaningful) to others. Indeed, the judgment of novelty and meaningfulness that constitutes mini-c creativity is an intrapersonal judgment. This intrapersonal judgment is what distinguishes mini-c creativity from other forms of creative expression. For instance both little-c (or everyday) creativity and Big-C (or eminent) creativity rely on interpersonal and historical judgments of novelty, appropriateness, and lasting impact.

Moreover, mini-c creativity highlights an important relationship between learning and creativity. For instance, as cognitive scientists have long noted, information is not simply transmitted from the environment and passively received without any alteration. Rather, people filter and interpret information through the lens of their existing conceptions, personal histories, and past experiences. Indeed, as Moran and John-Steiner (2003) have explained, both cognitive development and later forms of creative expression start with an “internalization or appropriation of cultural tools and social interaction. . .not just copying but rather a transformation or reorganization of incoming information and mental structures based on the individual’s characteristics and existing knowledge” (p. 63).

This interpretive and transformative process is a creative endeavor that we call “mini-c.” Of course, this is not to say that learning is creativity, but rather that knowledge development and later forms of creative expression (e.g., little-c and Big-C) have their genesis in mini-c interpretations. Thus, the inclusion of

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mini-c creativity in conceptions of creativity not only broadens the developmental continuum of creativity (from mini-c to little-c to Big-C) but highlights the creative, transformative process involved in developing personal knowledge and insights.

Our ultimate goal in this article is to demonstrate how including mini-c creativity in current conceptions of creativity will grant a theoretical foothold for creativity scholars to conduct research aimed at examining the relationship between creativity and learning and the development of higher forms of creative expression. To achieve this goal, we have organized our paper into three sections. In the first section we highlight how interrelated conceptual and methodological challenges have served to preclude the study of mini-c creative phenomena and identify opportunities for addressing these challenges. Next, we provide an argument for the importance of including mini-c creativity in conceptions of creativity. We conclude by outlining potential directions for future research.

### Challenges and Opportunities

Much of the creativity research (during the past 50 years) has focused on unambiguous examples of creative breakthroughs and productivity (Runco, 2004a). For instance, Gruber (1981) conducted a book-length case study of the creativity of Charles Darwin. Similarly, Gardner (1993) presented case histories of seven eminent creators (Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi). Although such work has provided important insights into personological, environmental, and social factors of creativity, focusing only on eminent forms of creative production precludes the study and understanding of more common forms of creativity. Moreover, such narrow conceptions of creativity fuel problematic beliefs and stereotypes about the nature of creativity (Plucker, Beghetto, & Dow, 2003), including the belief that only the unusually prolific and lucky few have creative potential.

Fortunately, most creativity researchers recognized that creativity is not limited only to those who achieve eminence as a result of their creative contributions. The upshot of this recognition has been scholarship aimed at developing and warranting the assertion that creative potential is widely distributed (see Runco & Richards, 1998; Kaufman & Baer, 2006; Sternberg, Grigorenko, & Singer, 2004, for reviews). The argument in favor of widely distributed creativity is grounded in the conceptual (and empirical) distinction between eminent creative contributions (referred to as Big-C creativity) and everyday creativity (referred to as little-c creativity).

Recent theories of creativity effectively illustrate this distinction. Some theories seem to be exclusively aimed at Big-C creativity. The propulsion model of creative contributions (Sternberg, 1999; Sternberg, Kaufman, & Pretz, 2002) outlines eight types of possible creative contributions based on their relationship to the field. A painting or invention or psychology paper would be categorized depending on how it propels or moves the existing paradigm. The replication category refers to those contributions that simply reproduce past types of work (such as many genre novels or movie sequels). One could argue that replications could include examples of little-c (e.g., if a nonprofessional tried to write a poem, it would likely be a replication). But the model is clearly designed to look at Big-C contributions.

Similarly, Csikszentmihalyi's (1999) systems model looks at the interaction between domain, field (i.e., gatekeepers), and person. In Csikszentmihalyi's theory, the domain, field, and person work

interactively. If the field did not believe that the later work of Bach was not creative in the domain of music when he was still alive, then that means that his work was not creative at that time. It is only later, when our more modern critics, professors, and musicians recognize his talent, that his work can be called creative. Again, this theory seems aimed at Big-C.

In contrast, there are other theories that seem primarily focused on little-c. The investment theory of creativity (Sternberg & Lubart, 1995) argues that the key to being creative is to buy low and sell high in the world of ideas. Whereas people high in Big-C undoubtedly do exactly this, such a model is more geared to the average person. An accomplished creator like Leonardo Da Vinci most likely did not have to worry about which trends or ideas to follow—yet these are exactly the concerns that people who still are developing their skills in a domain have about their own creativity.

Amabile (1996) proposed the componential model of creativity. She argued that three variables were needed for creativity to occur: domain-relevant skills, creativity-relevant skills, and task motivation. Again, although her model would certainly apply to Big-C creativity, it seems more aimed at everyday little-c creativity. The idea of a Mozart struggling with task motivation seems unlikely (although he easily might have).

On the one hand, the distinction between Big-C and little-c creativity has served to broaden the reach of creativity research and scholarship. For instance, the concept of little-c creativity has enabled researchers to recognize and examine the more ubiquitous forms of creative expression, including the creativity of school-age children. On the other hand, important (and limiting) commonalities remain in how Big-C and little-c creativity currently are conceptualized.

Specifically, both Big-C and little-c conceptions of creativity focus on externally judged creative products (albeit at a different level of impact). For instance, Charlie Parker is considered to be creative because his music revolutionized jazz. Similarly, a local jazz trio (who might otherwise be considered quite ordinary when compared to a Jazz great, like Parker) can still be considered creative (at the little-c level) because of their original and adaptive approach to playing jazz standards. Although the products differ in creative magnitude (Big-C vs. little-c), in both cases creativity is determined by the nature and impact of the music (i.e., the creative products).

A focus on creative products is an important and (often) necessary aspect of understanding Big-C and little-c creativity. However, too great a focus on products is problematic. The problem is at least twofold. First, as Runco (2005) has explained, the "extremely product-orientated" conceptualizations of creativity results in researchers and educators failing to acknowledge the creative potential and personal creative efforts of individuals who have not "impressed some qualified audience" (p. 616). This product-oriented focus not only confounds productivity with creativity (Runco, 2004b) but precludes efforts aimed at studying the more personal experience of creativity (e.g., the mini-c creative insight of a jazz student who discovers how to combine two jazz "riffs"). The second problem is that product-oriented conceptualizations overemphasize the "fossilized" outcomes of creativity and thereby minimize (and obscure) the dynamic process of creativity-in-the-making (Moran & John-Steiner, 2003).

Moreover, the focus on finalized creative products is represented (and reinforced) by-product-oriented methodological ap-

proaches used to study creativity. As a result, researchers have focused on assessing creative behaviors, artifacts, and products. Product-based assessment has many wonderful uses, and we continue to learn more about the extents to which they are applicable (e.g., Baer, Kaufman, & Gentile, 2004). However, the choice to focus on finalized creative products comes at the cost of more process-oriented and finer grain investigations of creativity. Although these methodological choices may, in part, be attributed to the fact that static behavioral artifacts are more tractable for research, we do not believe that the extreme product-oriented focus in creativity research is inevitable. There are (and have been) a variety of research methodologies appropriate for examining how creativity develops, including Vygotsky's method of double stimulation (Moran & John-Steiner, 2003); microgenetic methods (Siegler, 2006), and think-aloud protocols (Graef, Csikszentmihalyi, & Giannino, 1983).

Although each of these methodologies (used alone or in conjunction with each other) is promising, we see microgenetic methods as holding particular promise. This is because researchers have successfully used microgenetic methods to identify and examine children's discovery of insights and problem-solving strategies (see Siegler, 2006 for a recent overview). Although it is beyond the scope of the present article to provide a thorough overview of microgenetic methods, we feel it important to briefly highlight how this method might be used in studies of mini-c creativity.

#### *Microgenetic Methods and Mini-C Creativity*

Unlike longitudinal or cross-sectional studies that can only produce static "snapshots" of change across time, microgenetic methods allow researchers to identify and examine the dynamic genesis of microlevel changes in cognitive phenomena (Siegler & Crowley, 1991). For instance, researchers have successfully used microgenetic methods to conduct fine-grained analyses of children's thinking and document how children (and novices) discover and use new insights across a wide range of learning, reasoning, and problem solving tasks (Siegler, 2002).

Microgenetic methods often combine the use of observations (typically video-taped) with other methods (e.g., participants' immediate retrospective explanations of their thoughts and behaviors) to capture and analyze the process of discovery and subsequent microlevel changes in thinking, reasoning, and problem solving. For instance, Siegler (2006) has explained that microgenetic methods enable researchers to identify when a new approach was first used and, in turn, examine the nature of discovery:

whether a child was excited about the innovation, whether the child was even aware of having used a new approach, and whether he or she could explain why the new approach was advantageous. Knowing exactly when the new approach was first used also allows examination of performance just before the discovery: what types of problems preceded the discovery, whether the child failed to solve the immediately preceding problems, whether the child was taking an unusually long time to solve those problems, and so on. Moreover, knowing when the discovery was made allows examination of performance just after the discovery: how consistently the child used the new strategy on the same type of problem, how broadly the child generalized the new strategy to other types of problems, how efficiently the child executed the new strategy, and how all of these dimensions of performance changed as the child gained experience with the new approach. (p. 472)

Given that microgenetic methods are useful for examining the process of discovery as well as transitions between lower and higher levels of competence, this method holds particular promise for examining students' novel and personally meaningful interpretations of experiences, actions, and events (mini-c creativity) as well as their transitions from mini-c to little-c creativity. For instance, microgenetic methods could be used to observe and analyze: students' developing competence with poetry writing (e.g., when, how, and why students' make novel decisions regarding word choice, line construction, and poetic conventions) or students' improvisation during a jazz performance (e.g., when and how students' decide to use new "riffs" in a composition) or students' developing competence with the visual arts (e.g., use of new brush strokes while composing a painting or the development of new techniques and styles) or even students' explanation and developing understanding of scientific phenomena (e.g., how students' are interpreting new concepts or observations, the new connections they are making, and the evolution of their scientific reasoning and understanding).

Although the ascent of product-oriented conceptualizations of creativity has left little room for the more dynamic and intrapersonal studies of creativity, microgenetic (and related) methods have opened the door for such studies. However, in order for this potential to be realized researchers will need to broaden not only their methodological approach to studying creativity but also their conceptions of creativity. Indeed, the time has come to consider how the Big-C/little-c conceptual framework can (and should) be broadened to include mini-c creativity.

#### *Broadening the Conceptual Framework*

As we've discussed, the distinction between Big-C and little-c creativity is an important one. However, serious conceptual limitations remain. Although Big-C creativity is clearly defined, the same cannot be said for little-c creativity. Big-C creativity represents monumental and everlasting creativity—the Beethovens, the Monets, the Edisons. Everything else gets lumped under little-c. For instance, if somebody is extremely creative but is not at the Big-C level, then they are considered to be at the little-c level. If someone scores well on the Torrance tests, we could say they are high on little-c. Yet where does that leave the more ubiquitous individual creative processes involved in the K-12 and college-level learning? The everyday creativity experienced by students as they learn a new concept or make a new metaphor is given short shrift in the world of little-c. This is why we have proposed mini-c as a third category, sort of a little-c for the little-c category.

The reason why we believe that mini-c is a construct that deserves its own terminology is because current conceptions of little-c creativity are not inclusive enough to accommodate the personal creative processes involved in students' development of new understanding and personal knowledge construction. For example, think about the standards we end up using for our students. We may know they're not at the Big-C level—most of us will never teach a Picasso—but even if we lump them together with everyone else in the little-c category, they get shortchanged. We put a fourth grade student learning about the pyramids in Egypt for the first time in the same category as a noted Egyptian scholar. It is all "little-c." We argue that having a distinction between Big-C creativity and little-c is necessary but not sufficient. Indeed, having

the further distinction between little-c and mini-c creativity helps to highlight the importance of considering the developmental nature of creativity.

Consider, for instance, the definition of creativity proposed by Plucker et al. (2004): "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" (p. 90). At the Big-C level, the twin components of novel and useful are automatically assumed to be present. A discussion of the work of Mozart or Gershwin or Sondheim does not need to start by asserting how their music is new or useful; of course it is. The larger question rests on how these creators have impacted the field of music and influenced generations of young composers.

The standard definition is most appropriate for little-c creativity. If your (adult) brother writes a short story and asks for feedback, he is not expecting you to compare him to Poe or Hemingway (unless he is a bit of a narcissist). The way that you would likely read and critique the story is by seeing if it has something new and original about it, and to make sure that it makes sense and follows the basic construction of a short story.

The idea of mini-c presents a different end of the spectrum, however. Students who are learning how to write or draw or invent creatively are not necessarily at the stage yet where their products are going to be either novel or useful. A student's computer program might represent work that is new to her (such as a first attempt to create a website in HTML), but it will most likely not represent anything new to the field. Nor, however, is genuine novelty to be expected. You cannot be creative in a field without truly learning the field (indeed, to reach the level of publishable work usually takes approximately 10 years; see Hayes, 1989). Mini-c also highlights the creativity process involved in developing an understanding of the field.

Table 1 shows how mini-c is different from both Big-C and little-c.

### How Is Mini-c Connected to Little-c and Big C?

We propose the concept of mini-c not simply to create another framework of creativity, but to propose a process by which creativity develops. We see mini-c as part of a continuing evolution of the creative life (cf. Cohen, 1989). When we argue that everyone is creative, it all starts in mini-c. In most cases, mini-c can become little-c; in extraordinary cases, little-c may then turn into

Big-C. In other instances, as we will discuss, mini-c may never evolve.

The point we are making is that all contributions judged to be creative by others (be they little-c or Big-C) have their genesis in mini-c. This initial (mini-c) spark of creativity, however, can be crushed if not nurtured properly. The question to answer then becomes what is the way to properly encourage and support mini-c such that it can evolve into further creative pursuits? We argue that the answer can be found in what we call the Goldilocks Principle.

### *The Goldilocks Principle*

In order to explain the Goldilocks Principle, we will start with an example. Prior to doing so, we feel it important to note that we recognize learning varies as a function of students, context, and domain. Indeed, learning how to write a poem is different from learning how to engage in scientific inquiry. Moreover, we also recognize that not all aspects of learning involve creativity. However, we do see important similarities across domains with respect to the role the Goldilocks principle plays in the development of creativity. With this in mind, let us start with three children: Alyssa, Bernardo, and Chuck.

All three are classmates in their first year of high school. In their English class, all three enjoy writing poems. These poems are not necessarily original or enjoyable by little-c standards, but they are beginning attempts at writing poetry. Alyssa experiments with writing haikus, Bernardo learns about sonnets, and Chuck tries writing an epic poem without rhyming. For each of these students, the creative act is new to them. Whether the poem has merit in its own right is less essential at this stage. In their Introduction to Business class, all three students are encouraged to develop a new product and market it. Again, all three students enjoy designing new products and thinking up advertising slogans. These types of exercises all encourage the mini-c process.

However, let us follow these three students as they progress through school. Alyssa continues to write poems and think of new products, but her teachers and family are not supportive. They belittle her efforts, judge them harshly, and tell her that she is not talented. By the time that she graduates high school, she already considers herself to not be a creative person. She will likely stop writing poetry even for her own enjoyment.

Bernardo, meanwhile, continues to write poems and invent gadgets, and he is overpraised. His parents and teachers, in an effort to not squelch any creative passion, encourage him too

Table 1  
*Distinguishing Mini-c From Big-C and Little-c*

	Big-C	Little-c	Mini-c
Scope	Breakthrough creativity that changes a field	Everyday creativity that may make a solid contribution	Intrapersonal creativity that is part of the learning process.
Example of a product	A painting by Van Gogh	A painting you create to give to a dear friend	A Student's sketch pad with various combinations of light and shadow.
Example of a person	Bill Gates	A colleague	A high school art student
Assessment	Usually historiometric; examining impact or citations	Psychometric tests; Consensual Assessment Technique	Microgenetic methods
Experience	More than ten years needed	Some level of schooling or general experience	Virtually none

strongly. His poetry and inventions are never given authentic feedback, simply complimented. As he grows older, he believes that he is being creative at a competitive level, but the lack of appropriate feedback has stunted his creative growth. His poems are still sophomoric and self-obsessed with little originality or new ideas. His inventions are not appealing to a real audience. As Bernardo grows older, he still writes poetry and tinkers with inventions. However, he is ill-equipped for the real world, which demands the little-c requirements of originality and appropriateness. He does not understand why his poetry and inventions are not being accepted, and he waits for a lucky break.

Chuck, like his classmates, also continues to write poems and create inventions. As he grows older, his teachers and family encourage his creativity while still providing appropriate feedback. As he grows older, the feedback gradually becomes more detailed and demanding. Armed with a solid self-perception of being a creative person, he continues to work at improving his craft by creating poems and inventions that are of interest to a general audience. With luck and persistence, he may eventually even make the jump from little-c to Big-C.

We believe that mini-c is subject to the Goldilocks principle. If a student, such as Alyssa, is given feedback based on standards that are too harsh, she will not pursue creative activity. If a student, such as Bernardo, is given feedback that is not harsh enough (with little attention to any semblance to real-world standards), the results can be as potentially devastating as if received no support. He will never learn to grow and expand his creativity. The goal, just as Goldilocks sought oatmeal that was neither too warm nor too cold, is to provide the right level of feedback. There is a delicate tightrope between overencouraging a student and not encouraging them enough.

At this point, much empirical work is needed to examine the assertions and surrounding the Goldilocks principle. For instance, research is needed to examine how to best provide feedback to novices and students who are at the early stages of learning the conventions of a particular field or domain. Indeed, research is needed to examine for whom, under what conditions, and at what cost the Goldilocks principle can be achieved. Still, the Goldilocks principle highlights an important avenue for future research aimed at examining the role that feedback plays in the development of creative competence.

Although we have no magic formula for reaching the Goldilocks-perfect level, Beghetto's (in press) metaphor of ideational code-switching provides a way of thinking about how this might occur. Ideational-code switching refers to the ability to move between intrapersonal creative interpretations (mini-c) and interpersonal expressions of creativity (little-c). Like linguistic code-switching (in which multilingual speakers move between a dialect and standard form of a language when recognizing that their dialect is not being understood), ideational code-switching highlights the need for individuals to receive cueing from their social environment when their ideas and contributions are not understood. Skilled others (teachers, more skilled individuals in a particular domain or context) can help encourage this switching between mini-c and little-c by: (a) taking the time to hear and attempt to understand novice's mini-c interpretations; (b) cueing novices when their contributions are not making sense given the domain constraints, conventions, and standards of the particular

activity or task, and (c) providing multiple opportunities for students to practice moving between mini-c and little-c creativity.

Ideational code-switching, like other practical suggestions for supporting creativity (e.g., Beghetto, 2005; Piiro, 2004; Sternberg & Grigorenko, 2004), highlights the importance of skilled others recognizing the value of mini-c creativity while at the same time introducing novices to the socially negotiated conventions, standards, and existing knowledge of a domain. The recognition that mini-c creativity is its own unique process and merits its own unique standards provides creativity researchers and educators with a new way of thinking about how creativity can be studied, understood and (ultimately) cultivated.

### *Applications of the Mini-c Construct*

The concept of mini-c creativity cannot only help differentiate the little-c category, but can also help address the domain specificity question in creativity research. The domain question refers to whether creativity is domain-general or domain-specific and has generated much debate among creativity scholars (see Kaufman & Baer, 2005; Sternberg, Grigorenko, & Singer, 2004). In recent years, there have been two models that have attempted to reconcile the two extreme sides of generality and specificity. The hybrid model (Plucker & Beghetto, 2004) argues that the debate rests on a false dichotomy that obscures the blended nature of creativity, while the Amusement Park Theoretical (APT) Model (Baer & Kaufman, 2005; Kaufman & Baer, 2004, 2006) puts forth a pyramid of levels of specificity. The APT model begins with initial requirements (things that are true for any type of creative act) and moves down to microdomains (distinctions that may be found between writing short stories and writing plays, e.g.). What mini-c brings to these models is a further dimension (on the full continuum of creativity) to be considered.

For instance, in nuclear physics, simply reaching the level of knowledge required to understand the concepts of nuclear physics is already an achievement in and of itself. Still, there is a great distance between a unique, personal understanding of nuclear physics (mini-c) to being able to apply that understanding in a novel and appropriate ways (little-c) and an even further distance to making a revolutionary contribution to the domain of physics (Big-c). Indeed, research on career trajectories indicate that mastering a domain takes many years and only the lucky few are able to make any type of significant, Big-C contribution to the field (Simonton, 1994).

Music performance may represent a similar pattern but in a different domain. Nearly anyone can begin to play a musical instrument. A recorder, for example, can be purchased for less than 10 dollars, and a novice could tap out "Mary Had a Little Lamb" with less than a day of trying. Still, the jump from mini-c to little-c creativity is a reasonably big one. Even with talent, one likely needs to practice for many years before reaching the basic level needed to perform for an interested public (little-c) let alone be talented and lucky enough to eventually achieve Big-C status as a musician (e.g., Sloboda, Davidson, Howe, & Moore, 1996). In comparing music performance to nuclear physics, one sees the benefit of an early start in both domains as it helps ensure a progression from mini-c to little-c creativity and increases the chances of (but certainly does not guarantee) achieving Big-C creativity.

We argue that by including mini-c creativity in broader conceptions of creativity, researchers will be better able to frame the domain question as it pertains to K-12 schooling. Because mini-c creativity is concerned with the individual creative processes involved in student knowledge construction and development of new understanding, it allows for a better focus on what aspects of creativity are domain specific and what aspects might be domain general.

### Directions for Future Research

The inclusion of mini-c creativity in broader conceptions of creativity has several important implications for creativity research. For instance, including mini-c helps address gaps in how creativity is represented in prevailing models and theories of creativity. Specifically, the inclusion of mini-c creativity offers an additional unit of analysis for creativity researchers interested in studying the creative potential and development of children and novices. As we have discussed, research that focuses only on individuals who perform well on creative measures or produce finalized creative products may overlook the creative potential of people who might otherwise be categorized as “less creative.”

We see tremendous possibilities for mini-c aiding discussions of classroom creativity. Researchers or educators looking for ways to assess creativity may feel constrained or worried they must be overly harsh because of the standard definitions that are bound to the assessment of finalized products. Most students will have a difficult time (in part because of the knowledge and experience needed to contribute to any given domain) making a contribution that is genuinely novel in an area. Other students may still prefer to play with their ideas and not want to be constricted into having to produce appropriate work. Instead of being unduly penalized, student creativity can be studied at another level. Indeed, micro-genetic studies of mini-c creativity offer the potential for developing an understanding of how students discover and apply new insights and under what conditions such insights might develop into little-c and (perhaps even Big-C) creativity. Such investigations may prove particularly insightful for studies of creativity across the arts as the development of a unique and personal style often is an important goal for students of the arts. Finally, we see the transition of mini-c into little-c into (perhaps) Big-C as fitting in well with other theories of creative development (e.g., Cohen, 1989; Sawyer et al., 2003).

Although the concept of mini-c is in its infancy, we feel that creativity research has matured to the point where it is now possible to take on the charge (stated over 50 years ago by Guilford) to examine the development of creativity in schoolchildren and novices. We acknowledge that important methodological challenges remain. However, we are convinced that creativity researchers are up to the challenge. Indeed, the time has come for creativity researchers to broaden their conceptions and empirical studies of creativity to include mini-c. And, in turn, explore how to best support a lifetime of creative learning and expression.

### References

- Amabile, T. M. (1996). *Creativity in context: Update to the social psychology of creativity*. Boulder, CO: Westview.
- Baer, J., & Kaufman, J. C. (2005). Bridging generality and specificity: The Amusement Park Theoretical (APT) Model of creativity. *Roeper Review*, 27, 158–163.
- Baer, J., Kaufman, J. C., & Gentile, C. A. (2004). Extension of the consensual assessment technique to nonparallel creative products. *Creativity Research Journal*, 16, 113–117.
- Beghetto, R. A. (2005). Does assessment kill student creativity? *The Educational Forum*, 69, 254–263.
- Beghetto, R. A. (in press). Ideational code-switching: Walking the talk about supporting student creativity in the classroom. *Roeper Review*.
- Beghetto, R. A., & Plucker, J. A. (2006). The relationship among schooling, learning, and creativity: “All roads lead to creativity” or “You can’t get there from here?” In J. C. Kaufman & J. Baer (Eds.), *Creativity and reason in cognitive development* (pp. 316–332). Cambridge: Cambridge University Press.
- Cohen, L. M. (1989). A continuum of adaptive creative behaviors. *Creativity Research Journal*, 2, 169–183.
- Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of human creativity* (pp. 313–338). New York: Cambridge University Press.
- Gardner, H. (1993). *Creating minds*. New York: Basic Books.
- Graef, R., Csikszentmihalyi, M., & Gianino, S. (1983). Measuring intrinsic motivation in everyday life. *Leisure Studies*, 2, 155–168.
- Gruber, H. (1981). *Darwin on man*. Chicago: University of Chicago Press.
- Guilford, J. P. (1950). Creativity. *American Psychologist*, 5, 444–454.
- Hayes, J. R. (1989). *The complete problem solver* (2nd ed.). Mahwah, NJ: Erlbaum.
- Kaufman, J. C., & Baer, J. (2004). The Amusement Park Theoretical (APT) Model of creativity. *Korean Journal of Thinking and Problem Solving*, 14, 15–25.
- Kaufman, J. C., & Baer, J. (Eds.). (2005). *Creativity across domains: Faces of the muse*. Mahwah, NJ: Erlbaum.
- Kaufman, J. C., & Baer, J. (Eds.). (2006). *Creativity and reason in cognitive development*. Cambridge: Cambridge University Press.
- Moran, S., & John-Steiner, V. (2003). Creativity in the making: Vygotsky’s contemporary contribution to the dialectic of development and creativity. In R. K. Sawyer, V. John-Steiner, S. Moran, R. J. Sternberg, D. H. Feldman, J. Nakamura, et al., *Creativity and development*. (pp. 61–90). New York: Oxford University Press.
- Piirto, J. (2004). *Understanding creativity*. Scottsdale, AZ: Great Potential Press.
- Plucker, J. A., & Beghetto, R. A. (2004). Why creativity is domain general, why it looks domain specific, and why the distinction doesn’t matter. In R. J. Sternberg, E. L. Grigorenko, & J. L. Singer (Eds.), *Creativity: From potential to realization*. (pp. 153–168). Washington, DC: American Psychological Association.
- Plucker, J. A., Beghetto, R. A., & Dow, G. T. (2004). Why isn’t creativity more important to educational psychologists? Potentials, pitfalls, and future directions in creativity research. *Educational Psychologist*, 39, 83–96.
- Richards, R., Kinney, D. K., Benet, M., & Merzel, A. P. C. (1988). Assessing everyday creativity: Characteristics of the lifetime creativity scales and validation with three large samples. *Journal of Personality and Social Psychology*, 54, 476–485.
- Runco, M. A. (1996). Personal creativity: Definition and developmental issues. *New Directions for Child Development*, 72, 3–30.
- Runco, M. A. (2004a). Creativity. *Annual Review of Psychology*, 55, 657–687.
- Runco, M. A. (2004b). Everyone has creative potential. In R. J. Sternberg, E. L. Grigorenko, & J. L. Singer (Eds.), *Creativity: From potential to realization*. (pp. 21–30). Washington, DC: American Psychological Association.
- Runco, M. A. (2005). Motivation, competence, and creativity. In A. Elliott & C. Dweck (Eds.), *Handbook of achievement motivation and competence* (pp. 609–623). New York: Guilford Press.

Runco, M. A., & Bahleda, M. D. (1986). Implicit theories of artistic, scientific, and everyday creativity. *Journal of Creative Behavior*, 20, 93-98.

Runco, M. A., & Richards, R. (Eds.) (1998). *Eminent creativity, everyday creativity, and health*. Norwood, NJ: Ablex.

Sawyer, R. K., John-Steiner, V., Moran, S., Sternberg, R., Feldman, D. H., Csikszentmihalyi, M., et al. (2003). *Creativity and development*. New York: Oxford University Press.

Siegler, R. S. (2002). Microgenetic studies of self-explanation. In N. Granott & J. Parziale (Eds.), *Microdevelopment: Transition processes in development and learning* (pp. 31-58). Cambridge, England: Cambridge University Press.

Siegler, R. S. (2006). Microgenetic analyses of learning. In W. Damon & R. M. Lerner (Series Eds.), & D. Kuhn & R. S. Siegler (Vol. Eds.), *Handbook of child psychology: Vol. 2: Cognition, perception, and language* (6th ed., pp. 464-510). Hoboken, NJ: Wiley.

Siegler, R. S., & Crowley, K. (1991). The microgenetic method: A direct means for studying cognitive development. *American Psychologist*, 46, 600-620.

Simonton, D. K. (1994). *Greatness: Who makes history and why*. New York: Guilford Press.

Sloboda, J., Davidson, J. W., Howe, M. J. A., & Moore, D. G. (1996). The role of practice in the development of performing musicians. *British Journal of Psychology*, 87, 287-309.

Sternberg, R. J. (1999). A propulsion model of creative contributions. *Review of General Psychology*, 3, 83-100.

Sternberg, R. J., & Grigorenko, E. L. (2004). Successful intelligence in the classroom. *Theory into practice*, 43, 274-280.

Sternberg, R. J., Grigorenko, E. L., & Singer, J. L. (Eds.) (2004). *Creativity: From potential to realization*. Washington, DC: American Psychological Association.

Sternberg, R. J., Kaufman, J. C., & Pretz, J. E. (2002). *The creativity conundrum*. New York: Psychology Press.

Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd*. New York: Free Press.

Sternberg, R. J., Lubart, T. I., Kaufman, J. C., & Pretz, J. E. (2005). Creativity. In K. J. Holyoak & R. G. Morrison (Eds.), *Cambridge handbook of thinking and reasoning* (pp. 351-370). Cambridge: Cambridge University Press.

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