Teaching for Creativity in the Common Core Classroom

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CHAPTER 1

Creativity and the Common Core
Hidden Beliefs and Common Misconceptions

Vignette 1: Should Teachers Establish a Separate “Creativity Time” in Their Curriculum?

Mr. Marrow is a 1st-grade teacher who values creativity and often incorporates it into his teaching. Although he readily admits that he doesn’t know much about creativity theory or research, he has worked hard over the years to make room for creative expression in his classroom. In fact, he long ago established “creativity time” wherein students can do any kind of art project or other form of self-expression. He teaches his students when to be silly and when to get serious. As such, he often gives his students cues to remind them when they are being “creative” but “not appropriate” given the academic goals of a particular lesson. Mr. Marrow has noticed that he has to give these types of cues more often since his school adopted the Common Core. He feels that his creativity/academic content ratio is a bit out of balance—particularly when teaching reading and mathematics. He is trying to find more time for his students to take small breaks from the content so that they can still find ways to express themselves creatively. Unfortunately, he feels it is a losing battle. He is starting to feel torn in two different directions.

Vignette 2: Is Creativity Really Compatible with Standards-Based Teaching?

Ms. Pascal, a high school math teacher, often mentions to her colleagues that she inevitably gets one or two “creative” students in each section of the courses she teaches. For her, creative students are those who continually pose interesting questions and frequently surprise her with the depth of their mathematical insights. She feels that creative students’ strengths are also what make them so challenging to teach. They are at times exhausting,
being at the intersection of the domain (e.g., biology), the field (e.g., journal editors or grant administrators), and the person (e.g., Gregor Mendel). It is often not possible to truly determine who is of Big-C level until many years after the person’s death.

Taken together, the Four-C model represents a developmental trajectory from mini-c to Big-C. Figure 2.1, adapted from Beghetto & Kaufman (2014), illustrates how mini-c creativity serves as the starting point of later levels of creative expression. Different levels of creative expression, of course, do not always follow a linear progression. Accomplished creators may go directly from mini-c ideas to Pro-c innovations. Also, as illustrated in Figure 2.1, when students work alongside an expert companion it is possible for them to generate mini-c insights that lead to Pro-c contributions.

Consider the 6th-grade student named Gabriel Leal (reported in Lofing, 2009). Gabriel had a mini-c insight that pistachios might be a better bait than what has traditionally been used to control orangeworms (a major pest for nut growers in California). His insight was based on his own experiences (pistachios tasted better to him) and interpretation of the problem (if he preferred the taste of pistachios, then perhaps the orangeworms would also prefer pistachios). Although Gabriel’s mini-c insight ran counter to prior practice, he was able to test his idea in a controlled experiment, under the supervision of one of his father’s colleagues at a UC Davis lab. The results of the experiment surprised researchers and confirmed Gabriel’s mini-c insight. Gabriel’s father even reported the results at a professional conference, thereby making a Pro-C contribution.

Figure 2.1. Four-C Developmental Trajectory
A focus on the reward, rather than on the learning task, can also undermine the type of learning that is described in the Common Core State Standards. In fact, the ELA Common Core State Standards explicitly state, “Students who meet the Standards readily undertake the close, attentive reading that is at the heart of understanding and enjoying complex works of literature. . . . They actively seek the wide, deep, and thoughtful engagement with high-quality literary and informational texts . . . ” (NGACPB & CCSSO, 2014b, p. 3, italics added). The descriptors we italicized are the same descriptors of intrinsically motivated students. Students who are intrinsically motivated “readily undertake” complex tasks; at the heart of their engagement is a focus on “understanding and enjoying” the tasks; and they “actively seek” out opportunities for “wide, deep, and thoughtful engagement” in what interests them.

Of course, not all students will suffer negative effects on learning and creativity from extrinsic rewards. Some students can indeed be meaningfully motivated by rewards. Researchers such as Eisenberger and his colleagues (Eisenberger, Pierce, & Cameron, 1999; Eisenberger & Shanock, 2003) have provided evidence that clearly targeted rewards, paired with direct instructions to be creative, can have no negative effect and can even enhance creativity. In adults, the relationship can be even stronger; Byron and Khazanchi (2012) conducted a meta-analysis of many different studies and found that rewards increased creativity if the rewards were specifically contingent on creative performance.

One explanation for this is to understand that not everyone experiences extrinsic motivators in the same way. For example, the idea of prosocial motivation, as outlined by Forgeard and Mecklenburg (2013), integrates the idea of intrinsic versus extrinsic motivation with the notion of audience. Just as people can be motivated by intrinsic or extrinsic factors, so too can they be motivated by self or others. Intrinsic self-oriented motivation, which Forgeard and Mecklenburg call “Growth,” is rooted in the personal enjoyment of the creative task itself. Intrinsic other-oriented motivation, which is called “Guidance,” is probably the closest to what teachers strive for—the joy of sharing one’s gifts to help others experience the same rush. Extrinsic self-oriented motivation “Gain” is the standard motivation derived from wanting extra credit, praise, or financial incentives. Finally, extrinsic other-oriented motivation, “Giving,” is using the specific manifestations of your creativity to help others. It is still extrinsic motivation because there is a tangible, manifest outcome that drives you, but it is focused on helping others.

As we will discuss later in this chapter, there are different types of extrinsic motivators (Ryan & Deci, 2000). Some tend to have more detrimental effects on task engagement than others. In fact, it is possible to use extrinsic motivators in ways that can yield positive outcomes similar to
Here are some central ideas to guide teachers planning English Language Arts lessons that will foster creativity and help students acquire the skills and knowledge that are outlined in the Common Core ELA Standards:

1. Something we talk about often in this book is the importance of intrinsic motivation. Intrinsic motivation is closely associated with creativity. The fact that people are more creative when they do things that they find interesting or personally meaningful will probably not come as a surprise, but even if intrinsic motivation did not increase creativity it would still be important. We want students to find meaning, value, interest, and sometimes even passion in what and how they learn. When students are engaged in a task with intrinsic interest, they are not only more likely to be creative; they are also learning more. This is one of many ways in which learning for creativity and learning for content knowledge (aka Common Core State Standards) go hand in hand.

2. Perhaps less obvious than the value of intrinsic motivation is the often detrimental effect of extrinsic motivation. Rewards and anticipated evaluations tend to depress creativity, and they also reduce intrinsic motivation. Sometimes teachers need to use rewards, and often they will need to provide evaluations of students’ work. However, teachers can aim to not make rewards and evaluations any more salient than they must be. If students are already interested in a task, adding bribes (that is, rewards) will do nothing to enhance their work; they are already motivated. It can take away something important, though—the intrinsic motivation students bring to the task.

3. Extrinsic motivation can be problematic and we try not to encourage it in our students. However, there are times when extrinsic constraints are necessary in teaching, especially in the form of feedback (evaluation). Some things to bear in mind when providing feedback on students’ work are:
   a. It is important to focus your critical evaluation on the specific work students have done for the assignment and not on the students’ overall abilities. This holds true whether your feedback is positive or negative. Focusing on students’ specific work rather than overall ability has less of a negative impact on creativity.
   b. When praising student work, teachers should emphasize the effort students put into it rather than any underlying ability. This will lead to more effort on the part of students in future
Here’s another example (reported in Levenson, 2011, p. 221). A 6th-grade teacher was reviewing with her students how to multiply decimal fractions. She put the following problem on the board:

\[ \_ \times \_ = 0.18 \]

She then asked the class, “What could the missing numbers possibly be?” Several students raised their hands. Before calling on any of them, however, the teacher stated, “There are many possibilities.” She then started calling on students. Below is an excerpt from the class discussion that ensued:

*Gil:* 0.9 times 0.2  
*Teacher:* Good. Another way. There are many ways.  
*Lolly:* 0.6 times 0.3  
*Teacher:* Good. More!  
*Tammy:* 0.90 times 0.20.  
*Teacher:* Would you agree with me that 0.2 and 0.9 is the same [as 0.90 and 0.20]? I want different.  
*Miri:* I’m not sure. What about 9 times 0.02?  
*Teacher:* Nice. Can someone explain what she did?

The teachers in the above examples break free from the prototypical pattern of classroom talk. Mehan (1979), for example, noted that classroom talk typically follows a repeating, IRE pattern. Specifically, teachers ask a question (Initiate), students provide an answer (Respond), and teachers evaluate the correctness of students’ responses (Evaluate). Once teachers get a correct response they move on to the next question, repeating the IRE pattern. Of course, not all teachers adhere to this pattern of classroom talk. But it is quite common and often gets passed on from one generation of teachers to the next (Beghetto, 2013). In fact, the IRE pattern of talk is so widespread that children often use it to signify that they are playing “school” (Cazden, 2001). The problem with the IRE pattern is that it encourages rapid convergence on one correct response, rather than inviting students to share and elaborate on their mini-ideas.

The teachers in the above examples do not adhere to the IRE pattern. Rather, they invite as many responses as possible. This is most evident in the teacher from the second example. She continually paused and invited her students to generate multiple solutions. Prior to calling on the students, she stressed “there are many possibilities.” Then, after the first student responded correctly, she again invited additional responses by saying, “Another way. There are many ways.” Even after a student provided a second solution she invited, “More.” When a student essentially gave the same response, she
expanding \((x - 1)(x + 1), (x - 1)(x^2 + x + 1),\) and \((x - 1)(x^3 + x^2 + x + 1)\) might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

The eight MP standards, described above, provide key constraints that can be incorporated into almost any math activity and used across any grade level (as illustrated in the opening vignettes). Now, let’s take a look at a summary of the math content (MC) standards:

The math content standards focus on mathematical procedures and specific math content that students should understand as they progress through the various grade levels. One way to think of the MC standards is that they are organized or nested in four levels. Specific content standards (e.g., count to 100 by ones and tens) are clustered together in related themes (e.g., Use place value understanding and properties of operations to perform multi-digit arithmetic), which are nested under broader content categories, called *Domains* (e.g., know number names and the count sequence). The domains are also nested in specific grade levels (e.g., kindergarten, 6th grade, high school).

At first glance, all the nested standards, domains, and clusters can be somewhat overwhelming. We would, therefore, recommend spending time becoming familiar with the most general level: the various grade content domains with their corresponding grade levels (listed below). Spend time working at this level when thinking about and planning lessons—recognizing that the particular standards and clusters of standards represent concrete, grade-level-appropriate examples of these more general concepts.

**Math Content Domains and Grade Levels**

**Elementary School**
- Counting and Cardinality (K)
- Operations and Algebraic Thinking (K–5)
- Number and Operations in Base Ten (K–5)
- Geometry (K–HS)
- Measurement and Data (K–5; HS)
- Number and Operations—Fractions (3–5)

**Middle School**
- Ratios and Proportional Relationships (6–7)
- The Number System (6–8)
- Expressions and Equations (6–8)