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Creativity on the Brink?

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Do we want U.S. students to become better test takers—or innovative, 21st century citizens?

Not long ago, I had the wonderful opportunity to visit schools in China and speak to Chinese educators. Everywhere I went, teachers and administrators asked me the same question: How can we help our students become more flexible, creative thinkers?

I was struck by the contrast between these conversations and the ones I most often hear in schools in the United States. In recent years (and for logical reasons), conversations in U.S. schools have focused largely on improving standardized test scores. In China, where test scores (at least in the schools I was visiting) are already high, educators recognize those scores as an insufficient goal. They're interested in learning more about the kind of education that has fueled the United States' traditional strengths in innovation and creativity.

Why all this interest in creativity? And what should we do about it? The answers lie in the interrelationships among creativity, learning, and motivation.

The Need for Creativity

Of course, conversations about the need for creativity are not unique to China. Po Bronson and Ashley Merryman's widely publicized 2010 *Newsweek* article "The Creativity Crisis" sparked water-cooler conversations about creativity across the United States. Business sections of bookstores abound with texts expounding the need for more innovation and entrepreneurship in the U.S. economy. Yet there is still ambivalence: Conversations about a creativity crisis often emphasize the need to infuse more creative thinking into students' school experiences—as long as it doesn't depress test scores.

Focusing primarily on test scores is shortsighted. As [Yong Zhao](#) (2012) so forcefully points out, every choice we make about the allocation of our time and energy limits another choice. For centuries, the path to advancement in Chinese society has been through high scores on national tests. As a result, the Chinese have what Zhao calls a "laser focus" on instruction that raises test scores. Not surprisingly, Chinese students are very good at taking tests. But that focus has come at a cost. The Chinese recognize that their students' limited ability to question, solve problems, and innovate is a serious challenge; and they are working diligently to learn about the kinds of education that have supported the United States' traditional strength in innovation. Meanwhile, the United States is running at breakneck speed toward the cliff of total test focus, tossing aside any nonmandated curriculum as we go.

When Zhao looked at the relationship between math scores on the Programme for International Student Assessment (PISA) and entrepreneurship, as measured across 50 countries by the annual Global Entrepreneurship Survey, he found a significant negative correlation between the two. That is, the countries with the highest PISA scores scored lower on measures of entrepreneurship than did countries with more modest scores. This correlation suggests that the practices that produce exceptionally high test scores do not support flexible thinking—a conclusion supported by the fact that the United States' potential "creativity crisis" has emerged exactly at the point when its schools have become more and more test-driven.

Of course, not all tests are bad, and we want to ensure that students are learning valuable content. But if schools focus all their efforts on preparing students for tests, they will not be successful in preparing students for life. The 21st century pace of change, as well as the global economy, demand young people who can learn on their own, solve problems, and respond to situations unlike any their parents or teachers can envision.

How do we prepare them for that? We help them become independent learners and creative thinkers.

The Creativity–Learning Link

Sadly, all of us have had experiences in which we "learned" something in school without understanding it. Think about the tests for which you memorized facts you could not explain, or the assignments for which you quoted relevant passages of the textbook without a clue what they meant or why they mattered. You aren't alone. Speaking to Brandt (1993), Howard Gardner stated,

The findings of cognitive research over the past 20–30 years are really quite compelling: students do not understand, in the most basic sense of that term. That is, they lack the capacity to take knowledge learned in one setting and apply it appropriately in a different setting. Study after study has found that, by and large, even the best students in the best schools can't do that. (p. 47)

Students develop understanding by applying what they learn in diverse ways and multiple settings. Creative applications of core content are among teachers' most powerful tools in building students' understanding. If we want students to master the content, they must do something with it beyond simple repetition. They must use it in meaningful ways and make it their own.

For example, a student who has been challenged to use mirrors to move a flashlight beam around obstacles so that it illuminates a target is likely to develop an understanding of reflection beyond just repeating the principle. A student who has been challenged to use descriptive language to create the scariest possible non-gory Halloween story comes to understand descriptive language as something beyond an exercise in an English book.

The Creativity–Motivation Link

Most teachers would agree that helping students find purpose (to say nothing of joy) in their school tasks is one of the great challenges of teaching. To achieve in-depth understanding, students must be engaged with the content, rather than focusing on an external reward, grade, or prize. Thus, intrinsic motivation that focuses on the task is central to learning.

Intrinsic motivation is also central to creativity. Amabile (1989) used the analogy of a rat in a maze. If the rat is motivated by an extrinsic reward (cheese, for example), it will take the straightest line to the reward so that it can get out of the maze as quickly as possible. If the rat is intrinsically motivated, it enjoys being in the maze. It takes the time to explore and find all the interesting nooks and crannies. The intrinsically motivated rat is more likely to find a creative way through the maze—and perhaps something better than cheese.

What We Can Do About It

First, let's be clear on the goal: We want to teach *for* creativity—to teach in a manner that supports student creativity. We'd also like to teach creatively, but that's a different goal. Creative teachers design innovative lessons, create stimulating classroom environments, and engage their students in interesting projects. But just because the teacher is creative, that does not necessarily guarantee that the *students* will have the opportunity to be creative. If the teacher presents a highly engaging lecture while dressed as King Henry VIII, but the students are required only to learn factual information about Henry, that's not teaching for creativity.

Teachers can create a classroom in which creativity flourishes by doing three key things: (1) developing a creativity-friendly classroom environment, (2) teaching the skills and attitudes of creativity, and (3) teaching the creative methods of the disciplines.

But before exploring these keys, we need to begin with the basics: What about the Common Core State Standards?

It's the Floor, Remember?

My greatest fear about the Common Core standards is that they will become our national curriculum. According to the standards themselves,

The Standards define what all students are expected to know and be able to do, not how teachers should teach. ... they do not—indeed cannot—enumerate all or even most of the content that students should learn. (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010, p. 6)

The standards are intended to be the floor of learning, not the ceiling. So when dealing with the Common Core State Standards, let your mantra be, "Take the next step." For example, if the standard is "Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text," you might think about how students can use their own creativity to develop that skill. Perhaps they could write or even just plan a story, first charting the characteristics of the characters they want to highlight, and then comparing and contrasting how the various characters portray those characteristics in their actions.

In social studies, you might have students create a scene between two historical figures. By explaining the dialogue in the scene, students demonstrate understanding of the historical figures' different points of view, as well as how viewpoints become apparent in dialogue.

Once we decide to keep the Common Core State Standards as the baseline rather than the ceiling, we are ready to consider our three keys for developing student creativity.

Key 1: Develop a creativity-friendly classroom.

In a creativity-friendly classroom, both the physical environment and the classroom's emotional climate support creativity. The routines, procedures, and classroom culture encourage flexible thinking. Behaviors like asking

questions, finding problems, and seeking to solve them are not just safe, but enthusiastically welcomed.

Many of the issues essential to developing a creativity-friendly classroom are tied to intrinsic motivation. No activity is motivating in and of itself; it can only be motivating to a particular person at a particular time. But there are conditions that make intrinsic motivation more likely. Individuals are more likely to be motivated by ideas and activities they find interesting or those they have chosen to pursue. They are also likely to be motivated by activities in which they perceive themselves to be gaining competence. Think about a time you gained a new skill. As you realized you were improving, you were much more likely to want to continue.

Here are a few of the many ways that teachers can support intrinsic motivation:

- To the extent possible, allow students to choose the ways they want to learn or the ways they want to demonstrate learning. The more those options allow for students to find and explore their interests, the more powerful they will be.
- Provide clear informational feedback in time for students to adjust and improve their performance. Remember that a sense of growing competence increases intrinsic motivation.
- Give students experiences with inquiry-based instruction, in which they raise questions, solve problems, analyze data, and draw conclusions. Such processes provide the scaffolding that can lead to genuine creative inquiry.

Key 2: Teach the skills and attitudes of creativity.

How can we expect students to think more creatively if they don't understand what creativity is? Explicitly teaching the skills and attitudes of creativity includes teaching about the lives of creative individuals, the nature of the creative process, and strategies people can use to generate creative ideas. For example,

- Teach specific creative thinking strategies, such as brainstorming and SCAMPER (Substitute, Combine, Adapt, Modify, Put to another use, Eliminate, Reverse).
- Use those strategies within the curriculum. For instance, brainstorm King George III's options when faced with the American colonial rebellion.
- Study the lives of creative thinkers, particularly the ways in which they overcame challenges. The path to creativity is seldom a straight one!

Key 3: Teach the creative methods of the disciplines.

Students need to learn how individuals are creative within the disciplines they study. In science, for example, students should learn the processes of scientific investigation in addition to the concepts and generalizations that have resulted from such investigations in the past.

In history, students must learn the facts about what occurred, as well as generalizations that help them understand why the facts matter. But they should also learn what historians do—for example, how they differentiate between observations and inferences when they approach artifacts. Parallel kinds of knowledge can be examined for any field in which creativity emerges. Helping students find and solve problems in the disciplines is a key way to integrate creativity into core content.

Three for One

Each of these keys is important in itself, but when combined, they provide an atmosphere that nurtures students' efforts to exercise their creativity. Simultaneously, they provide opportunities for students to gain a deep understanding of content, develop intrinsic motivation, and build their creative powers—a wonderful three-for-one package. What are we waiting for?

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