

Uncover & Unleash Students' Creative Potential

Translating research into practice.



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The importance of creativity to society is unquestionable. Research documents the contributions of creativity to our health, quality of life, and ability to learn. The significance of creativity in the workforce is highlighted in a 2015 *Business and the Creative Economy* article by Adam Okulicz-Kozaryn. He asserts that “creativity is the single most important ingredient for broadly understood progress (technological, economic, social, academic, and so forth).” In July 2013, the U.S. Department of Commerce announced that for the first time in our nation’s history, the contribution of creativity to the gross domestic product will be included. We are in constant need of creative solutions to solve matters of national and international importance, from containing the Zika virus to finding sustainable ways to reduce our carbon footprint. These solutions originate from a vibrant exchange of ideas by communities of people who continuously share their original ideas and are open to the ideas of others.

Our students are poised to take their place in history. With the volume of information they process daily through multiple devices, the knowledge base from where they will draw ideas, solutions to problems, and inspiration

for novel inventions has increased dramatically during the past decade. In today’s classrooms, educators inspire future technological and social innovators, artists, and policymakers. How can their creativity be fueled so they reach their full creative potential?

Forms of Creativity

Creativity can take several forms. It could be demonstrated in terms of actual behavior that can be easily observed. But creative potential, which is latent and is not easily observed, is as important. Creative potential can be inferred and even measured, thanks to advances in the creativity research, but it is not as obvious or objective as actual creative behavior. That being said, creative potential is much more important for educators than is creative action. That is in part because creative potential is so widely distributed.

Every student has creative potential—it is not something that only gifted children or only students with high grades have. In fact, one finding from Kenes Beketayev and Mark Runco’s “Scoring Divergent Thinking Tests With a Semantics-Based Algorithm” is that students earning the highest grades are sometimes more concerned about correct answers than original ideas, and often students

earning only moderate grades have outstanding creative potentials that are not apparent in their schoolwork, indicating that grades are not at all correlated with creativity. If educators look for creative potential, they will see hidden talents in students who are only earning moderate, or even low, grades. Clearly, the ideal is to help students to fulfill and express their creative potential while learning what the curriculum is designed to convey. This is one way that the educational system needs to strike a balance, with both creative and academic talents appreciated and nurtured.

Creativity as a Process

It is best to look at creativity as requiring an iterative, multistage process. The new arts standards outline the creative process as create, present, respond, and connect. While these stages are intentionally represented by action verbs that emphasize a process approach, they each avoid a reliance on creative outcomes, which are the result of the creative process but not necessarily indicative of the effort students invest in the process. Nor is the outcome indicative of how well individual students do in the different stages of the creative process. A student could do well in identifying worthwhile tasks or problems, and having good ideas about them, but might need assistance with other stages—for example, presenting his or her rationale or implementing the idea. This student could be excelling in creative thought but, if only the end result is recognized, much of the creative effort will not be appreciated. Outcomes are not indicative of the underlying process.

Risk is a part of creativity, just as it is a part of any investment. The risk in the classroom occurs because creative ideas are original, and thus they are not easy to predict. An educator may pose a question and expect responses based on the current curriculum, but out of the blue a highly creative but unexpected idea is suggested by a student. Any time activities are open



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enough to allow creative thinking, there is a risk that you might hear or receive something unexpected. Educators and students should tolerate the risk of the unknown as they embrace original thinking.

How to Assess Creativity

In *The Art of Thought*, Graham Wallas' early research on the creative process identified four stages: preparation, incubation, illumination, and verification. Preparation involves collecting materials and conducting research on the topic. Incubation is the quiet, reflective time when we let all the information "marinate" while we take a walk. Illumination is the "aha" moment when a promising idea emerges, followed by the verification stage during which time we test the idea and make sure it works.

The process is recursive. It is important to know that these stages exist as we determine the most appropriate ways to assess creativity at each stage and under what circumstance. Assessment should distinguish between presented problems and discovered problems (the latter being more strongly tied to creativity), and between activities that encourage divergent or convergent thinking. The former is indicative of creative potential. While convergent thinking is used when students deal with questions that have correct answers (or tasks that have one correct end result), divergent thinking questions and tasks are open-ended. There is no one correct answer; there are many possibilities. This is what allows divergent and original thought—the openness to explore, play, experiment, and think for oneself.

Every subject taught in our educational system offers opportunities for divergent thinking, and a recent study focused on the impact of the arts on student creativity and engagement. The study, "The Effects of Arts-Integrated Education on Title I and Students in Low-Income Families" by Ivonne Chand O'Neal, found that compared to students in



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more resourced school environments, Title I students participating in the arts showed higher levels of student engagement, which was defined as the degree of attention, curiosity, interest, and passion that a student shows when he or she is learning or being taught. Title I students participating in the arts also attained higher positive challenge scores, indicating that they more often coupled a challenge with a passion or interest to yield greater likelihood of a problem solution.

Creativity Strategies for Educators

There are, in fact, methods designed to fulfill creative potential. Here are five.

- 1. Personalize.** Begin the school year by asking students to make a list of their top five passions, activities, pastimes, or teams. Incorporating items from these lists throughout the school year will keep students engaged and offer on-the-spot options for topics of further exploration.
- 2. Super-Charged Seeing (process focus).** Ask students to view an image and write down what they see. In what way does it tell a story or record history? How could it be used as a tool for scientific discovery or exploration? This type of activity heightens observation skills, encourages students to think divergently, and encourages them to shift perspectives by examining multiple viewpoints in our increasingly visual culture.
- 3. Find Three Ways (process focus).** Ask students to generate a real-world problem that they want to solve. They must generate three ways to solve the problem. Feel free to place a condition on one of the ways. For example, one way must include a robot or a block of ice.
- 4. The Invention Game (process focus).** Pick a real-world challenge. Ask students to devise and sketch an invention that incorporates five steps to accomplish the task. What if money and resources were

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unlimited? What is the scale of this invention? Could it be mass-produced? What would your online jingle or print advertisement be to market your invention?

5. Notice, Wonder (process focus).

Invite students to read a short paragraph, view an image, or listen to a piece of music that connects to the topic of classroom discussion. Ask them to list what they notice. Next, ask them to list what the passage, image, or musical selection made them wonder.

There are times when our students simply need to be reminded to be creative. A study we conducted in 1992 provides evidence to illustrate this point. “Problem-Finding Skills as Components in the Creative Process” examined the effect of explicit versus standard instructions on student creativity using a divergent thinking task, which is indicative of creative potential. Students were randomly divided into two groups. One group was asked to generate solutions to real-world problems that were creative, and to give solutions that no one else would think of. The second group was simply asked to generate solutions. Interestingly, students instructed to be creative generated responses that were significantly more original and creative than students in the standard instruction group. These findings clearly underscore that each of our students has creative potential. Strengthening their ability to practice strategies for creative thinking keeps them cognitively flexible and prepares them for a future filled with tremendous opportunity. 

Ivonne Chand O’Neal is chief research officer of creativity testing services and co-editor of the forthcoming *Arts Evaluation and Assessment: Measuring Impact in Schools and Communities*.

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