

CREATIVITY 102

THE WHATS, WHYS, AND HOWS OF CREATIVITY

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As the half-life of business knowledge continues to shrink and the speed of innovation continues to accelerate, creativity is becoming vital to both personal and business success.

There is a longstanding debate over whether creativity can be taught. Some say creativity stimulation comes from unlocking people's creativity largely by letting them be creative and supporting their efforts, while others say that just as we learn mathematical tools to help us improve our math, we can learn creativity tools to help us improve our creativity. Before we answer this question, let's review some proposed creativity methods.

WHAT IS THE QUESTION, AND WHAT ARE ITS MANY RIGHT ANSWERS?

QUESTION THE QUESTION: DRAFT MULTIPLE PROBLEM STATEMENTS. No matter how obvious the problem might appear or how certain you, your boss, or your client is that the problem is correctly stated, tremendous amounts of time and money can be saved and far more creative solutions can be stimulated when we take the time to question the question and generate multiple problem definitions.

Consider U.S. railroad companies at the turn of the 20th century. Instead of defining the problem as how to get into air travel, these companies defined the problem as air travel itself (i.e., as their competition). Imagine how different things would be for both consumer and company had these firms brought their formidable resources to bear on air travel. Amtrak flights, anyone?

The importance of judicious problem definition applies to implementation as well. A fourth grade teacher in late 1700's Germany returned to her classroom shocked to find her students out of their seats playing despite her instructions to study. Their punishment? Sum the numerals from 1-100. $1 + 2 = 3$, $3 + 3 = 6$, $4 + 6 = 10$, etc. But just moments after the teacher gave the assignment, a boy in the back gave the answer. Unfortunately for the teacher, the boy was destined to be one of the world's foremost mathematicians, Carl Friedrich Gauss. He had seen how simple the problem is once we slow down and go beyond obvious sequential additions to entertain other solution options (a hint for solving the problem can be found at this article's end).

SEEK AND EMBRACE MULTIPLE RIGHT ANSWERS.

The legendary *National Geographic* photographer Dewitt Jones created a second career teaching creativity, one of his primary lessons being to seek and embrace multiple right answers. Despite the right answers often taught in school, business and life routinely involve multi-faceted, multi-dimensional, multi-layered problems for which there can be multiple successful approaches. To settle for the first potential right answer risks staggering opportunity costs in the form of far more clever possibilities. In the math problem just noted, a fourth grader might spend fifteen minutes diligently tallying the sums, or s/he might generate the right answer in seconds if taking a moment to consider other potential right approaches.

WHY ARE WE SO OFTEN UNCREATIVE?

Simple: Decades in educational systems have trained us to focus on getting the right answer, which (1) is often too

narrow as just noted, and (2) encourages us to judge our answers as we generate them, critical appraisals that interrupt the creative process of snowballing ideas. Whereas we believe our idea judgments are improving quality, the opposite is true in the idea-generation phase: Because idea quantity is the primary source of idea quality, anything interrupting idea snowballing is the enemy of idea quality.

Moreover, we do not always recognize quality ideas as they arise (although others might), and our impression management and “be reasonable” mental filters have been well trained to quash significant novelty. My untenable idea might spark in your imagination another far more feasible alternative that you would not have produced otherwise.

Three things to help:

1. MEETING MANAGEMENT. Psychologist Edward DeBono’s six thinking hats scenario can help by designating some meetings as green hat ideation sessions that prohibit criticism. Participants wear metaphorical green hats, leaving criticism to be generated and shared during later black hat meetings. Relatedly, if enough people are present in brainstorming sessions and adopt a strict no-judgment policy, the team may move past judgments to a more creative, non-evaluative space.

2. QUANTITY TRUMPS QUALITY. Try specifying a high number of ideas as your goal; say 50. That might sound absurd for your given problem domain, but set it there anyway figuring it’s okay if you don’t quite make it. Now start looking for ideas, doing your best to reach 50. Note how different the process is when you focus

on volume: Those mental filters slowly fade as the idea-generation pace accelerates and you become immersed in new thoughts.

Somewhat counterintuitively, as your mental filters come down and your idea quantity goes up, so too does your idea quality. The reason is that our filters are lousy idea judges, especially when it comes to novel ideas that quick assessments dismiss as radical. When it comes to idea stimulation, quantity trumps (short-run) quality because working toward quantity increases our chances of stumbling across something truly brilliant by accident – accidents that then supplement our otherwise “normal” creativity processes.

3. SPEED FREES. I sometimes ask my students to write a haiku (a three-line Japanese poem with five, seven and five syllables per line, in that order). Almost everyone pauses to reflect before writing, though a few invariably get stuck and write nothing. After a minute or two, I change the assignment to one of writing five or more haikus in five minutes, noting the goal is now speed and volume, not quality. Speed helps us get past mental filters, though we have to work hard to work fast enough to sneak past them. My student haiku-writers ultimately write the first thing that comes to mind, which is precisely what they should be doing in ideation sessions, but which comes so very hard to us given years of suppressing anything except what we believe is the one right answer. In class, this commonly leads to poems starting with such top-of-mind topics as: “I despise Haikus,” “This pen is boring,” and “Long days

exhaust me.”

HOW CAN WE BETTER MANAGE OUR MINDS TO MAXIMIZE CREATIVITY?

INDIVIDUAL THINK. Academic research finds that individuals not infrequently outperform teams on creativity and/or problem solving tasks, which should come as no surprise for two reasons. First, on the individual’s side, many teams would rightly have trouble competing with prodigies such as Mozart, Einstein, Spielberg, or Jobs. On the team’s side, discussions can distract people from their own creativity processes with banter, political issues, physical attractions, debates over idea viability, etc.

Teams, moreover, risk masking quieter voices from introverts who are often the most creative people in the room and yet the least vocal. Teams might also expunge crazy ideas prematurely, whereas an individual working alone puts in the time necessary to work through obvious pitfalls to improve viability. The film “The Imitation Game” vividly illustrates some of these processes in its depiction of Alan Turing’s attempts and ultimate successes in World War II to develop a machine to break Germany’s Enigma code. The best thing the organization could do was to leave him alone to do his work,

at least for a while, after which a time did come when diverse inputs proved critical. One alternative to brainstorming, therefore, is “brainwriting,” a process in which individuals develop and write down their ideas for later team discussion

EMPATHIC DESIGN AND PROBLEM DETECTION.

Empathic design focuses on experiencing what your client experiences to better see the challenges they face so you can better design products and services to meet their needs. Merry Lynn Morris, the assistant director of USF’s dance program, did this inadvertently when living with a handicapped family member. As a dance teacher and choreographer, she took it upon herself to design a wheel chair that could be used in dance. With the help of engineers, she designed an omnidirectional wheelchair that is controlled by a smartphone in the user’s vest pocket.

More generally, when we try to improve our products, services, and organizations, problems are the jet fuel for our imaginations. To stimulate creativity, find more problems to solve. In Problem Detection, we ask consumers to list all of the problems they have with a given product or product class, after which we have them evaluate the importance of each problem and whether competitors are addressing it. In that same spirit, managers in b2b markets sometimes shadow a client for a day, looking for problems they might be able to help the client solve.

THE IMPOSSIBLE: IDENTIFY YOUR ASSUMPTIONS.

People often say that to be creative, simply relax your assumptions. This sounds easy, and is, and it improves creativity. However, claims about assumption relaxation are misleading because they distract us from the real challenge, which is *identifying* all of our assumptions. This is next to impossible because we are too close to our assumptions, not unlike the fish who is the last to know it’s swimming in water.

If your boss asks you to develop a new light bulb, how likely are you to relax assumptions such as produces light, uses electricity, includes glass, uses man-made light sources, etc. It is unlikely that your assumption relaxation efforts would identify such basic assumptions without an initial, intense focus on listing all possible assumptions (shoot for 30-50 or more). And as with ideas and problems, quantity matters. So set the bar high for the number of assumptions to identify, then get to work. In this two-phase process, you can later relax each of your long list of 50 or so assumptions to see what you get, such as relaxing the assumption of a human-made light source which leads you to the idea of harnessing bioluminescence for deep sea diving.

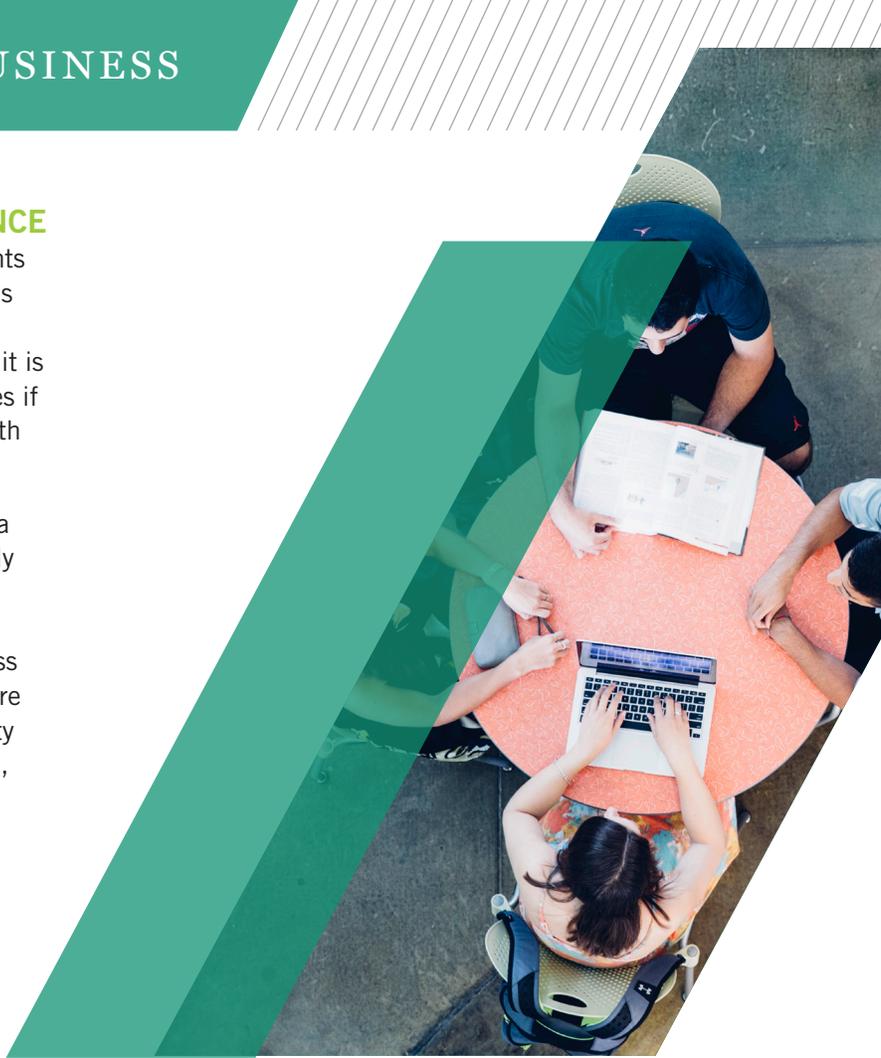


GET SILLY TO GET SERIOUS: THE IMPORTANCE OF PLAYFUL DETACHMENT.

I often tell my students to “get silly to get serious,” while a colleague of mine tells them to seek “playful detachment.” Ironically, taking our work less seriously often increases our creativity because it is easier to play around with options and strange possibilities if we dial down our emotional attachments and have fun with our thinking.

CLOSING THE CIRCLE. So, beyond the benefits of a supportive and open-minded environment, can we actually *teach* creativity? The answer seems to be, “yes, to some extent,” as the methods reviewed here suggest and as research supports. But whereas levity and lightheartedness are critical (i.e., if you’re not having fun periodically, you’re probably not doing it right), remember that some creativity stimulation methods require discipline and patience (e.g., creating problem lists). As with anything in life, you get out what you put in, though leveraging a few tricks of the trade should help multiply the returns on your creativity investments.

*Problem-solving hint: Summing the digits from 0-100. Consider number-pairs within that range that sum to 100.



ABOUT THE AUTHOR Timothy B. Heath is a professor in the USF Muma College of Business Marketing Department and co-director of the Center for Analytics and Creativity. His research investigates issues in branding, persuasion, and innovation, including ongoing research into innovation sequences, inter-temporal choices, and the nature of scientific inquiry. His research is published in the field’s best journals including the *Journal of Marketing*, *Journal of Consumer Research*, *Journal of Consumer Psychology*, and *International Journal of Research in Marketing*. He reviews research for numerous journals while serving as associate editor at the *Journal of Marketing* and on the editorial review board of the *Journal of Consumer Psychology*.

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