

NANO TOOLS FOR LEADERS®

INNOVATIVE THINKING: USING NEUROSCIENCE TO GET OUT-OF-THE-BOX IDEAS

Nano Tools for Leaders® are fast, effective leadership tools that you can learn and start using in less than 15 minutes — with the potential to significantly impact your success as a leader and the engagement and productivity of the people you lead.

Contributor: Michael Platt, PhD, Director, Wharton Neuroscience Initiative; James S. Riepe University Professor of Marketing (Wharton School), Neuroscience (Perelman School of Medicine), and Psychology (School of Arts & Sciences), University of Pennsylvania

THE GOAL:

Use the latest neuroscience research to increase innovative thinking and breakthrough ideas from your team.

NANOTOOL:

New research in neuroscience is giving us important information about innovative thinking — where it takes place in the brain and how to stimulate it. At its core, innovation is about creativity and exploration, and understanding the neuroscience of those strengths can provide insights into managing innovation within a team or company.

The brain is organized into two distinct systems — one that promotes focus on well-known tasks and another that promotes exploration and creativity. When the focus system is activated, the brain's innovation system is shut down, and vice-versa. That means when people have responsibilities involving duties they already know how to do, neurologically they can't "think outside the box." Research shows that stress also blocks the exploration and creativity system. For leaders and their organizations who need to stimulate innovation and identify creative individuals, these findings have important implications.

ACTION STEPS:

Need more innovative thinking from your team or organization? Consider these four steps, which may be practiced singly or jointly.

- **Step Away:** The brain is often at its most creative when it's not working on a specific problem, which is why people tend to have their best new ideas while driving, performing routine tasks, or even in the shower. When you need a fresh approach to an issue, try focusing on it briefly to get the situation clearly defined, then put it aside. Your subconscious mind — which is often the source of novel ideas — will continue work on the task while you focus on mundane activities or even overnight as you sleep. New solutions can naturally bubble up to consciousness after this form of "creative procrastination."



- **Unplug:** Practices that reduce stress, such as exercise and mindfulness meditation, also stimulate creative thinking. In fact, simply taking a walk — particularly in a natural setting — improves creative thinking. Researchers at the University of Kansas found that the greatest benefits come from exercise that isn't too taxing or mentally demanding, such as walking and jogging. A stressed brain can't be creative, so set aside time for yourself or team to get away from your desks and meditate or exercise. See this [Nano Tool](#) or [this one](#) for more ideas.
- **Mingle:** Spending time talking and socializing with others boosts activity in the brain's exploration system. So, encourage employees to hang out with others, perhaps by holding frequent social events or creating spaces where people can bump into each other over coffee.
- **Split Up:** Neuroscience research shows that putting together teams of creatives makes sense — some people really are more innovative than others due to natural differences in their brains' systems for focus and exploration, and they can be more effective when working on teams. To identify innovators and effectors, give the [Alternative Uses Test](#) which asks individuals to come up with as many uses as possible for common household objects, such as a brick or a pencil, within a limited time. This test — and others like it — engage the brain's creativity network and may provide a way to help select employees for the right teams.

HOW ORGANIZATIONS USE IT:

LinkedIn CEO Jeff Weiner encourages walking during the work day, and even walking meetings. "It's energizing to get outside for a 30-minute walk a few times a day," Walking has been shown to increase creativity, because it allows your brain to wander and daydream — which is what researchers discovered is "active problem-solving mode." By stepping away and removing yourself from technology and other distractions, the seemingly unproductive time spent away from your desk can actually help you come up with your best ideas.

The same benefits can also be enjoyed while performing monotonous everyday activities, as Google Global CCO Lars Bastholm advises. "Vacuum the house. Get on an elliptical at the gym. Paint a fence. Anything that will allow your brain to work in the background."

Meditation is credited by a growing number of business leaders as an integral tool for creativity. Salesforce CEO Marc Benioff says it allows him to take a step back, clear his mind, and make room for new ideas — a state he calls "beginner's mind." Former tech entrepreneur Charly Kleissner says his meditation practice allowed him to co-found the 100% IMPACT Network, joining with other investors in a commitment to invest 100 percent of their assets for social and/or environmental impact.

The ability of socializing to increase creativity is understood by many companies and encouraged through a range of approaches. At IDEO, it's over a meal (think soup on Fridays, tea and cookies on Tuesday). For Virgin Airlines, it's on outings to sporting and other events. London-based PR Agency PHA Media lets its employees make the call: they provide a quarterly budget for their staff to use for the activities of their choice, including paintballing and attending the theater.

Uniprise CEO Tracy Bahl allows select employees to vet ideas in an innovation lab, where they can gain visibility and be considered outside normal business channels. At Google, employees deemed to be more innovative work at subsidiaries like GoogleX, which is focused on innovation. Those who are better at executing standard practices work at ones like gmail, which is focused on delivering high performance services.

ADDITIONAL RESOURCES:

- [“Creativity in the Wild: Improving Creative Reasoning through Immersion in Natural Settings,”](#) Ruth Ann Atchley, et al. *PLOS ONE*, December 12, 2012. Reveals results of a study based on Attention Restoration Theory (ART) that suggests exposure to nature can restore and replenish some modules of the executive attentional system.
- [“Workplace Socializing is Productive,”](#) *Gallup Business Journal*, 2008. Discusses MIT professor Alex Pentland’s research, including the “pulsing star pattern” and ways managers can better design and encourage creative teams.

ABOUT NANO TOOLS:

Nano Tools for Leaders® was conceived and developed by Deb Giffen, MCC, director of Custom Programs at Wharton Executive Education. Nano Tools for Leaders® is a collaboration between joint sponsors Wharton Executive Education and Wharton’s Center for Leadership and Change Management. This collaboration is led by Professors Michael Useem and John Paul MacDuffie.