

Surprisingly, Brainstorming Activities Don't Generate a Lot of Unique Ideas

<https://www.psychnewsdaily.com/brainstorming-sessions-do-not-lead-to-an-increase-in-unique-ideas/>

by [DOUGLAS HEINGARTNER](#), SEPTEMBER 18, 2020

A new study finds that brainstorming activities produce ideas that are actually pretty mediocre, unless you disrupt your routines.

A [new study](#) shows that most **brainstorming activities** *are not likely* to lead to an increase in unique ideas.

In fact, they might even cause the novelty of your ideas to decrease over time.

"It was surprising," says co-author [Melanie S. Brucks](#), an assistant professor at Columbia University. "People got worse at one type of idea generation, even as they thought they were getting better at it."

Co-author [Szu-chi Huang](#), an associate professor at the Stanford Graduate School of Business, also admits she was taken aback by the results, recently published in the *Journal of the Association for Consumer Research*. "In my field, practice is always good," she said. "It's always about practice — do it every day and you will learn and improve your skills, or at least build good habits. But it turns out that to get better at creativity, you need to do some creative thinking about creative thinking."

Lead author Brucks says she initially was drawn to the subject as a graduate student, because she wanted to come up with better ideas herself. "There's a ton of research out there that shows how practice seems to help with everything if you want to improve performance," she explains. "I thought, 'Well, OK, I can just practice creativity, and I'll get good at it.'"

Brainstorming activities lead to a *less flexible* brain

As Brucks delved into the scientific literature on creativity, however, she discovered an intriguing gap in the research. While there was plenty of work on one-shot interventions — such as using visualization techniques during idea-generating sessions, for example — there was almost no research into the question of whether repetition over time would lead to increased output of [conceptual breakthroughs](#).

To complicate things more, creative cognition actually has two components. Divergent thinking, the sort that is utilized in idea-generating sessions, involves branching off from what a person knows and coming up with new ideas. In contrast, convergent thinking requires finding linkage between different existing concepts or ideas and connecting them to context.

Often, to come up with a viable concept, “you need them both,” Brucks explains. “They’re both really important, but also very different.”

Becoming better at divergent thinking is a particular challenge, because of the way the brain works. With most skills, practice tends to produce improvement by reinforcing certain cognitive pathways in the brain, making them more accessible, Brucks explains. At the same time, it de-emphasizes other pathways, cutting them off in order to allocate an optimal amount of cognitive resources to the prioritized task. But by training the brain to become more efficient and focused, that repetition also “gives you a less flexible brain,” Brucks notes.

But inflexibility goes against the nature of creativity, which continually requires the intellect to bend and stretch into new positions. To test how practice would affect idea generation over time, and what factors might affect productivity, Brucks and Huang constructed a two-part investigation.

Brainstorming activities to generate new product names

In the first study, a group of 413 subjects were recruited from an online pool and then randomly assigned to practice various types of brainstorming methods and brainstorming techniques. These included both divergent and convergent creativity tasks, for a period of 12 consecutive days.

Those who practiced divergent thinking had to spend a few minutes each day thinking of new product names. The subjects in the convergent practice group performed a Remote Associates Test. That asked them to identify a common link between three different words. (For example, “cold” could forge a connection among the words “shoulder,” “sweat,” and “sore.”)

All of the participants had to complete their tasks between 6:00 a.m. and 12:00 p.m. After the study, they took a survey in which they reported their perception of how well they had performed.

To practice creativity effectively, we have to change how we define practice. The structure needs to be more dynamic.

Twelve days of different brainstorming methods

Over the 12 days, the subjects working on divergent thinking generated about 15,000 ideas total. About two thirds of those were unique — an average of 5.71 unique ideas per person, per session. The convergent thinkers solved roughly the same amount (5.69) of RAT word problems. But there was a difference. Over the course of the study, the divergent thinkers barely increased the number of unique ideas that they produced. The convergent thinkers, on the other hand, had a markedly higher boost in productivity as they got better at the task.

Besides just counting the quantity of unique ideas, Brucks and Huang also gave the ideas to a panel of judges to evaluate their novelty — basically, ideas that were clever and memorable. “For example, if I’m trying to come up with names for a podcast app, I can come up with hundreds of ideas that are unique, but not very novel,” Brucks explains. “I might call it Podcast Organizer, or some variation of that. All those ideas could be unique, but they’re derivative.”

In contrast, playful names such as Earworm or Peas in a Pod would be more novel.

Novel ideas “come from a different perspective and depart from the most obvious,” she says. “Usually it comes from having random ideas and then incorporating them. You’re hungry, for example, so you think ‘peas in a pod.’”

When it came to novelty, the subjects practicing divergent thinking actually got worse rather than better. On average, they actually dreamed up ideas that were significantly less novel on the last day of the research than they did on the first.

How to run a brainstorming session: focus on mornings

In the second phase of the research, Brucks and Huang took 507 subjects and assigned them to practice the same divergent product name-generating exercise in different time blocks over a 14-day period. One group worked between 8:00 a.m. and 10:00 a.m., while another got 4:00 p.m. to 6:00 p.m., and a third “flexible” group could pick whatever time they wanted between 6:00 a.m. and midnight.

At the start, the subjects predicted how well they thought they would do. After each session they had to record how difficult it had been to generate new names.

One of the researchers' key findings was that practice increasingly hindered divergent thinking as the day progressed. As it turns out, "people are prone to habitual thinking late in the day," Brucks explains. "They're even less likely to diverge from already well-traveled cognitive pathways." And contrary to the stereotype of creative geniuses staying up late, people who did their team brainstorming activities at 11 p.m. had the worst productivity over time.

Oddly, the researchers discovered that subjects thought the idea-generating process got easier the more they practiced. In fact, they were actually producing fewer and fewer good ideas.

Introduce new routines for group brainstorming activities

But would-be marketing geniuses need not despair. As Huang notes, the results of the study don't necessarily mean that it's impossible to improve creative output through practice; they just suggest that people have been going about it too simplistically.

"To practice creativity effectively, we have to change how we define practice," Huang says. Rather than focus on routinizing the creative process, it might be more useful to deliberately disrupt routines. A team leader might vary the times that the group holds the brainstorming sessions, for example. Another technique would be to change the types of exercises employed.

"The structure needs to be more dynamic," Huang explains.

Technique-wise, an organization's most effective brainstorming activities might even evolve into something like improv. Namely, the improvisational exercises that acting students perform to get out of their comfort zone and unleash their creative instincts. Brucks notes that in previous research, imposing constraints upon idea generation — requiring subjects to come up with product names that have numbers in them, for example — has been shown to keep the novel concepts coming.

"You want to do something that prevents you from rehearsing the same thing over and over again," she says. That way, people in search of inspiration "reinforce not going down the obvious path."