CHAUNCEY E. WILSON
chauncey.wilson@gmail.com

Brainstorming Pitfalls and Best Practices

"Let's get together and brainstorm!" You have probably heard this call to action many times. Group brainstorming seems like a simple undertaking—you get a group of people together, present a topic or problem, and then ask the group to generate as many ideas as possible. When you are done generating ideas, you apply a selection technique for deciding which ideas will be investigated further. The most basic principles for successful group brainstorming are [4]:

1. Defer judgment about the quality of ideas (often expressed as "no criticism" of ideas).
2. Quantity, not quality, is the goal of brainstorming.

The apparent simplicity of these two principles leads many colleagues to believe that successful brainstorming can be done by almost anyone. In reality, deferring judgment is a difficult task and the goal of quantity can be easily derailed.

This article describes pitfalls of group brainstorming and best practices for improving your brainstorming sessions. I also will describe a method called "brainwriting" that complements group brainstorming and can help achieve the key goal of "quantity, not quality." Let's start our examination of brainstorming with a basic issue—the diversity of the brainstorming group.

DIVERSITY: HELP OR HINDRANCE?

Many references to group brainstorming call for diversity in the group. The theory is that more diversity will lead to more ideas. However, the relationship between diversity and creativity is complex. Sometimes diversity in groups can lead to the type of discomfort that many of you might feel when high-level managers and strangers are invited to brainstorm with you [2]. These strangers might increase diversity but also make the junior participants feel awkward about voicing "wild ideas." Diversity is important, but group comfort and cohesion also play a role in brainstorming success [3].

BEST PRACTICES

- *Do not invite anyone to the brainstorming meeting who is feared by other members. This might mean that managers or the volatile guru in the group are not invited to the session.*
- *Invite people from different groups who are known to the participants.*
- *Introduce everyone if there is anyone new is in the room.*

SERIAL SPEAKING AND PRODUCTION BLOCKING

The quantity of ideas from brainstorming is reduced when participants are expressing ideas since only one person can express an idea at a time. The person who is speaking is blocking the production of ideas by other members who may forget what they were thinking or decide that their idea isn't good enough. The technical term for this is "production blocking." Extending this further, the telling of war stories or too much explanation of an idea can also block ideas and reduce the quantity of ideas.

BEST PRACTICES

- *Use a trained facilitator. Brainstorming is a complex social situation and training can help the leader keep a session on track.*
- *At the beginning of the brainstorming session, tell the participants that ideas should be expressed quickly, without undue elaboration or stories that attempt to establish the quality of the ideas. Only questions about the meaning of the ideas should be allowed.*
- *Strongly enforce the rule that only one person speaks at a time (serial speaking).*
- *Consider asking participants to raise their hands when they have an idea.*
- *Provide note cards for people who get ideas while someone else is speaking to minimize production blocking.*

COMPETITION TO INCREASE THE QUANTITY OF IDEAS

Competition can increase the quantity of ideas. You might consider setting a goal that transcends a "typical performance." For example, if you are getting 50 to 60 ideas, you might set an explicit goal: "Let's generate 100 ideas today." In their research on how competition affected quantity, Paulus and Dzindolet found that participants who were given goals that were about twice those of a "typical performance" increased their quantity of ideas by about 40 percent over groups that were not given an aggressive goal [7].

BEST PRACTICES

- *Set an explicit and aggressive goal for the number of ideas that should emerge from your brainstorming session. You might write down on a board how many ideas you would like to get out of the brainstorming session.*
- *Number each idea. You can use this as a way to motivate participants to get to the next level. For example, if you have 90 ideas, you might urge your colleges to "go for 100 ideas!" Numbering also allows you to jump to an idea quickly and easily if an earlier idea triggers a new one.*

- *Motivate participants by telling them how important the ideas are when you introduce the brainstorming session.*
- *Provide some actual feedback about how many ideas were generated in prior brainstorming sessions—"In the last brainstorming session we generated 117 ideas in 30 minutes."*
- *Make all the ideas visible and legible so existing ideas can serve as catalysts for additional ideas. A practical issue here is writing large enough for everyone in the room to see the ideas.*

PREPARATION FOR BRAINSTORMING SESSIONS

I've been to many brainstorming sessions in which the participants are not asked to do much preparation. They may know the main topic for brainstorming, but are not asked to do much "pre-work." Asking your participants to do some "individual brainstorming," where they list ideas in the privacy of their own offices and then bring their ideas to the group brainstorming session, can increase the overall number of ideas. In addition to doing individual brainstorming you might also consider some extended "warm-ups" for the group brainstorming session. For example, you might plan a warm-up where you expose your colleagues to stimuli related to your brainstorming topic. Kelley describes a warm-up experiment for a project on toy design [1]. One group of designers did no preparation for a brainstorming session; a second group read books related to the design project and listened to a lecture; the third group took a field trip to a toy store. Each group then conducted a brainstorming exercise. The group that actually went to the toy store generated more ideas than the other two groups. In the software world, you might have the participants each look at a different competitor or read some articles that relate to the brainstorming topic.

BEST PRACTICES

- *Ask participants to spend a given number of minutes (say ten to 15) doing individual brainstorming on the topic of concern. Provide the participants with cards for writing down ideas. You can collect the cards at the brainstorming session and add any ideas that don't make it on to the group list.*
- *Give your brainstorming team warm-up exercises that will stimulate novel ideas.*

COMPLEMENT GROUP BRAINSTORMING WITH BRAINWRITING

Brainwriting is a method for rapidly generating ideas about products or processes by asking participants to write their ideas on paper (or online) rather than shouting them out as they would in a traditional group brainstorming session. You can ask a group to do individual brainwriting, where each person in the group writes down many ideas related to a topic and then hands the ideas to the facilitator. You can also conduct interactive brainwriting sessions where each person writes his/her ideas on a page for several minutes. Then the pages are passed along to the next person in the group (or shuffled and redistributed), and that person is asked to read (silently) the ideas from the previous person and add something new to the list without speaking to anyone else. The pages with ideas from two people are then passed to another person (or redistributed from a pile), and the process repeats several more times. At the end of the session, all the ideas are posted for review by the brainwriting participants.

Brainwriting is not yet a common technique for generating ideas, but it has some advantages over group brainstorming where people verbalize their ideas. One advantage is that the blocking effects found in face-to-face brainstorming (for example, evaluation apprehension and competition for speaking time) are reduced when people write their ideas privately rather than shouting them out. If you use the interactive method of brainwriting, where people see each other's written ideas, then participants can use prior ideas to stimulate new ones.

BEST PRACTICES

- *Consider brainwriting as an alternative to brainstorming when your group is contentious or when the culture might inhibit participants from expressing "wild and crazy" ideas in front of their peers (or worse, their managers).*
- *Use brainwriting to gather ideas when time is limited or you have a large group. I have used brainwriting during project meetings to gather questions that team members have about users and their work. The process is simple: Hand out a page to everyone in the room, write the question or topic on the board, give people two to three minutes to write their ideas, then*

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ABOUT THE AUTHOR *Chauncey Wilson is a usability manager at The MathWorks, instructor in the Human Factors and Information Design Program at Bentley College in Boston, and author of the forthcoming* Handbook of Formal and Informal User-Centered Design Methods *(Elsevier). Chauncey was the first full-time director of the Bentley College Design and Usability Testing Center and has spent over 25 years as a usability practitioner, development manager, and mentor. In his limited spare time, Chauncey hones his culinary skills as an amateur (but very serious) chef.*

THE FATHER OF MODERN BRAINSTORMING

Alex Osborn generally is credited with developing the modern organizational brainstorming method and attendant guidelines for brainstorming in the 1940s and 1950s [4]. His process (originally called "thinking up") is described in his classic book, *Applied Imagination: Principles and Procedures of Creative Problem-Solving*. Many of the original techniques described by Osborn have received support from researchers. This book is available through used booksellers and well worth a read if brainstorming is a staple in your organization.

BRAINWRITING IS MORE EFFECTIVE THAN GROUP BRAINSTORMING

Paulus and Brown [5] conducted research showing that brainwriting can generate about 40 percent more ideas than traditional group brainstorming. They suggested that this difference is probably due to the many distractions that can occur in group brainstorming that reduce the quantity of ideas. There are issues of subconscious conformity, fear about pleasing one's manager, inhibitions about public speaking, and the tendency of groups to view themselves as more effective than individuals even though groups often generate fewer ideas than individuals who are brainstorming alone.

THE WAY I SEE IT

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sumer" or "user" ignores this rich structure of abilities, motives, and social structures.

Time to admit that we are people, and that we design for people. Yes, I know, the various terms arose from the need to distinguish the many different roles people play in the world of artifacts, machines, and gizmos: those who specify, those who distribute, those who purchase (customers), those who actually use them (users). Those who stand by and watch. But that is still no excuse. All of them are people. All deserve their share of dignity. Their roles can be specified in other ways. It is time to wipe words such as "consumer," "customer," and "user" from our vocabulary. Time to speak of people. Power to the people. ✦

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THE WELL-TEMPERED PRACTITIONER

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pass them on to the next person who adds some more on the same page. Repeat this several times and you will come out of a meeting with perhaps dozens of ideas. Brainwriting is a parallel process for generating ideas that isn't limited by the one-speaker-at-a-time rule for group brainstorming. Plus, you can use it to gather questions and ideas in meetings that are not dedicated solely to brainstorming.

Group brainstorming is a complex social activity that requires a strong facilitator, clear ground rules, suspension of verbal (and nonverbal) criticism, and sometimes even "homework" to act as a catalyst for ideas. This article highlights the pitfalls of group brainstorming and suggests some best practices that will help you meet the primary goal of quantity, not quality. Brainwriting is discussed as a useful complement to group brainstorming because it eliminates some of the social forces that can inhibit idea generation and requires less facilitator expertise. ✦

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