

Brainstorming: Basic to Brilliant, Simple to Sophisticated

by Nancy R. Tague

Everyone knows how to brainstorm. First state a question or topic, then ask for and record ideas. Everyone knows the basic rules: no criticism, go for quantity, no bad ideas, piggyback. Brainstorming is one of the simplest quality tools. Right?

Not necessarily. Quality tools are like carpentry tools. Anyone can use a saw. But what about a hacksaw, keyhole saw, reciprocating saw, circular saw, scroll saw, jigsaw, sabre saw and so on. Each of these sophisticated tools was designed to address a unique situation. The best problem solvers, whether carpenters or quality practitioners, know the basics but also have a range of sophisticated tool variations at their fingertips, know when to use each one and have polished their skills until they handle those tools brilliantly, like true craftsmen.

Let's look more closely at brainstorming to see how to add sophistication to this basic quality tool. You can tailor it to fit your group or situation or employ a twist to revitalize your group's creativity.

The basic brainstorming procedure is to:

1. Review the rules of brainstorming with the entire group.
2. Review the topic or problem to be discussed.
3. Allow a minute or two of silence for everyone to think about the question.
4. Invite people to call out their ideas. Record all ideas, in words as close as possible to those used by the contributor.
5. Continue to generate and record ideas until several minutes' silence produces no more.

Use the rules to improve facilitation

One key to brilliant brainstorming is good facilitation. Practice helps, of course, but also invaluable is a solid understanding of the group dynamics and thinking processes brainstorming uses. The rules of brainstorming offer insights into ways good facilitating can help a group generate better ideas.

No criticism. Actually, this commonly known rule is incorrect. It really means no evaluation of any kind. No laughter. No groans. No side comments. No praise, which implies that another idea that did not receive praise was mediocre. The only discussion allowed is briefly clarifying the idea so it can be recorded concisely.

A fundamental of group dynamics is behind this rule. When comments are made, people begin to evaluate their ideas before stating them. They hold back. Fewer ideas are generated, and creative ideas are lost.

Why does this happen? More fundamentally, brainstorming and commenting come from different thinking modes that cannot occur simultaneously: creativity and judgment. One hinders the other. A facilitator who understands these concepts will listen for which mode is functioning and work to keep the team in the appropriate mode. Perhaps the facilitator will use the wildest idea variation when judgment needs to be repressed. Or, in a long work session designed to alternate between brainstorming and evaluation, the facilitator can display a card with “creativity” on one side and “judgment” on the other.

Go for quantity. Studies have shown that there is a direct relationship between the total number of ideas and the number of good, creative ideas. In the best brainstorming sessions, ideas shoot as fast as Fourth of July fireworks. Facilitating such an exciting brainstorming session becomes an art form. The recording of ideas must not slow down the idea-generation process.

Write fast, write sloppily, use abbreviations and summarize, but always get the contributor’s agreement that it captures the idea. If the facilitator can’t keep up with all the ideas, recruit another recorder. In a large group, someone other than the facilitator should be the recorder, while the facilitator acts as a buffer between the group and the recorder(s), keeping the flow of ideas going and ensuring that no ideas get lost before being recorded. If the group size is more than 20, use variations such as the charette procedure or the gallery method of brainwriting.

There are no bad ideas—the crazier the better. Crazy ideas come from a different perspective and often lead to wonderful, unique solutions. If a group can’t break out of conventional thinking, variations such as wildest idea or double reversal can help.

Piggyback. Build on previous ideas. For the group to piggyback, the facilitator must keep all recorded ideas visible at all times. Post pages around the room, use dark-colored wide markers and write big enough so everyone can read. Piggybacking is how the best ideas are born, but it takes imagination and effort on the part of facilitator and participants. Those crazy ideas are not solutions at first. How can they be combined, modified and expanded? What nugget of truth, innovation or perspective can be extracted? The facilitator must actively encourage the group to play with the ideas.

Solve participation problems

In addition to good facilitation, brainstorming gains sophistication when the basic procedure is modified to fit a group or situation. Let’s look at some examples.

Suppose you have a group that doesn't work well together. Perhaps the group is new, or dominant members stifle others' ideas, or some members think better in silence. Variations of the basic procedure can help, including round-robin (explained later), the similar but more structured nominal group technique, or brainwriting (also explained later) and its variations: 6-3-5 method, Crawford-slip method, pin cards technique and gallery method (explained below).

Round-robin brainstorming: Follow the basic procedure, except for Step 4. Instead, go around the group and have each person say one idea in turn. If a person has no ideas on that turn, he or she may pass. Note: In a group without the problem of dominant members, this method can stifle creativity.

Brainwriting: Follow Steps 1 and 2 as in basic brainstorming, then:

3. Each group member writes up to four ideas on a sheet of paper. He or she places the paper in the center of the table, selects another sheet and adds up to four new ideas. That sheet goes back in the center, and another sheet is chosen.
4. Continue this way for a predetermined time, usually 15 to 30 minutes, or until no one is generating more ideas. The sheets are collected for consolidation and discussion.

Note: Brainwriting is also useful when the topic is controversial or emotionally charged, when participants might feel safer contributing anonymously or when ideas are likely to be complex and need detailed explanation.

When you want to get ideas from a room full of people, you have a challenge. With traditional brainstorming, only a few people will be brave enough to contribute ideas, and you'll lose the resources of most of the room. Try the gallery method of brainwriting (explained below) or the charette procedure.

Brainwriting—gallery method:

1. Post blank flipchart pages around the room. For a small group, post as many pages as there are participants.
2. (Optional) If the topic has several issues or questions that must be considered, label the pages with those issues or questions.
3. Review with the group the topic or problem to be discussed. If pages have been labeled in Step 2, review them.
4. Every participant goes to a flipchart page and writes up to four ideas or for a predetermined time (often five minutes). Then everybody moves to another position.

The process continues until everyone has reviewed all pages and no more ideas are being generated. All pages are collected for consolidation and discussion.

Notes: This variation is also useful when the group has been sitting a long time and needs activity, when a large group is involved, or when ideas are needed about several clearly defined aspects of a topic. Also, if a group cannot find time to meet, this method stretched over several days or a week allows individuals to add ideas whenever they have free time.

Spark creativity

It happens to every group. The ideas are unimaginative, boring and inadequate. The group's mood spirals downward because everyone realizes they're not coming up with anything brilliant, different or even workable. The mood makes it even harder to generate good ideas.

Below are two brainstorming variations to spark creativity and rekindle imaginations. Also investigate PMI (plus, minus, interesting), contingency diagram, 5W2H (the Five Ws are who, what, when, where and why, and two Hs are how and how much/many) and desired-result fishbone. Many creativity tools have been developed that take quantum leaps past brainstorming. For example, powerful tools called lateral thinking developed by Edward de Bono are based on how the brain organizes information. These tools have been used for purposes as varied as new product development and transforming the 1984 Olympic games. Seek out additional creativity techniques if your group needs help generating innovative ideas.

Wildest idea: Follow the basic procedure, but in Step 4, only outrageous and unrealistic ideas are allowed. After Step 5, ask the group to look at the ideas and see if they can be modified into realistic ones. Open up the brainstorming to all ideas again.

Double reversal: Follow the basic procedure, but after Step 2, reverse the topic statement to state its opposite: how to make the problem worse or how to cause the opposite of the desired state. After Step 5, look at each idea and reverse it. Does the reversed statement lead to any new ideas? On a separate flipchart page, capture the reversal and any new ideas.

For example, a group of teachers was brainstorming how to encourage parents to participate more in their children's education. They reversed the statement: "How to discourage parents from participating in their children's education." Here are some of their ideas, how they were double-reversed and new ideas those led to:

- Keep school doors locked.
- Make teachers and principal seem remote and forbidding.
- Keep school doors unlocked.
- Open school for evening and weekend activities.
- Make teachers and principal seem real and human.
- Share staff's personal background with parents.

- Never tell parents what children are studying.
- Never communicate with parents.
- Always tell parents what children are studying.
- Send parents advance information about major projects or units of study.
- Always communicate with parents.
- Collect parents' email addresses and provide teachers' email addresses.

Brainstorming has only five simple steps, but when we study this tool, we discover layers of sophistication and variation that can lead to brilliant brainstorming sessions. The same is true for all the “simple” quality tools. Study and practice them, and you will discover how powerful and flexible they are.

Just as a carpenter who has mastered the basic hand tools in their many variations can build magnificent homes, so a quality practitioner who masters variations of the basic quality tools can create significant, lasting quality improvement.

Nancy R. Tague is the author of The Quality Toolbox from ASQ Quality Press. The book contains detailed instructions for all the tools mentioned here. This comprehensive reference provides step-by-step procedures and examples for 148 quality tools and variations, as well as several innovative aids that guide the reader to the right tool for a situation, an overview of the historical and management system contexts in which quality tools are used, and case studies from a variety of organizations, including Pearl River School District. For more information about Tague's book, visit www.asq.org/quality-press/display-item/index.pl?item=H1224.