

# BRAINSTORMING

"The clever combatant looks to the effect of combined energy, and does not require too much from individuals."

SUN TZU

Brainstorming is a little like a group of people meeting to make a sculpture. Everyone brings a piece of clay to the meeting and places it on the table. The pieces are molded together into a core and then the sculpture is turned, rearranged, modified, reduced, expanded, and otherwise changed until the group agrees on the final sculpture.

Developed in 1941 by A. F. Osborne, brainstorming was designed to encourage a group to express various ideas and to defer critical judgment until later. Everyone offers ideas that are listed, combined, improved, and changed into various other ideas. In the end, the group agrees on a final resolution.

The idea is to create an uninhibiting environment that will encourage imaginative ideas and thoughts. The usual method is to have a small group (six to twelve people) discuss a specific problem. One member records the remarks and suggestions. All withhold judgment on all suggestions. After the session, the various ideas and suggestions are reviewed and evaluated.

The two basic principles of brainstorming are:

1. *Quantity breeds quality.* A ship should not ride out to sea with a single anchor, nor should you attempt to solve a challenge with a single idea. The more ideas you come up with, the more likely you are to arrive at the *best* solution.
2. *Defer judgment.* In the illustration on the next page, most people would instinctively and immediately judge the dot to be above the

center of the triangle. They would be wrong. If you measure it, you will find that the dot is, in fact, in the exact center.

This is how we evaluate new ideas. We judge them instinctively and immediately and are often incorrect. Yet, in other matters we defer judgment. For example, when shopping for a new shirt or sweater, you don't usually buy the first one you see—you look over the entire selection and then go back and evaluate. This is the natural thing to do when shopping for clothes, and it is the way we should shop for ideas.

## BLUEPRINT

Constructing a railroad is a complex feat of engineering requiring imagination, intelligence, effort, and skill. Yet, a single person can derail an entire train by pulling up one track. Pulling up a track is not a particularly skillful act, but the result is immediate and devastating.

A negative thinker can derail a proposal by focusing on a fraction of it. Showing that one part of the whole is absurd, he or she implies that the whole is equally absurd. By destroying a part, a person can destroy the whole and feel a sense of achievement without taking the time or making the effort to create anything.

When we collaborate and attune ourselves to a common purpose, our energies must be channeled in a constructive direction. The success of any brainstorming session depends upon all members understanding the importance of creating a positive environment. To encourage this, avoid making negative or judgmental statements about ideas, such as:

- It's against all our combined logic.
- It can't be done.
- Someone must have already tried it.
- You're on the wrong track.
- The market is not ready yet.
- Not enough return on investment.

Whenever someone says, "Yes, but . . ." you should make them to change that into "Yes, and . . ." and continue where the last person left off. When-

ever someone says, "It won't work" or "It can't be done," make them or the group come up with three ways to make it work or get it done.

A brainstorming session that reflects a spirit of fellowship and good will allows the group to grow a new kind of communal mind that is based on the development of common thoughts. People are no longer in opposition. They become participants in a pool of common ideas, which are capable of constant development and change. Think of your brain as an enchanted loom, perpetually weaving and reweaving new ideas, conjectures, and concepts. The communal mind is an immensely larger loom and contains the means to construct new ideas, conjectures, and concepts immeasurably more diverse than the products of any solitary genius.

## THE MEETING

*Idea ticket.* In advance of a meeting, frame a problem or issue to address. Ask each person to bring at least one new idea or suggestion about the problem as their ticket of admission to the meeting. Have the people write their ideas on index cards and collect them at the door. No one gets in without a ticket. Start the meeting by reading everyone's contribution.

*It's showtime.* Stagecraft counts for a lot in today's fast-paced, visual world. Think of your meeting as a theatrical production, with sets (colorfully decorated classrooms), props (well-designed materials), and plotlines (themes), and with the manager as the director. As the director, the manager manipulates the participants' perceptions. The director prods, provokes, inspires, and challenges the people who feel stuck and stymied. For example, in a workshop for sales supervisors, the sales manager wore a football jersey and carried a football. When he asked a question, the manager would throw the ball to the person that he wanted to respond. When the manager wanted to change the topic, he would blow a whistle and make a change. The walls were decorated with goal posts displaying quotes from successful football coaches. At the end of the meeting, participants received a miniature football as a reminder that they now had to carry the ball into the field.

*The sounds of success.* Just like in the movies, in meetings, music can help set the tone and heighten the experience for participants. For example, play soft classical music when the group is brainstorming or light jazz during coffee breaks. The sound track doesn't have to be music. You may want to use the sound of roaring crowds to cheer people on, laugh tracks to loosen people up when they get uptight, jungle noises when someone becomes too negative, bells and gongs when a consensus opinion is reached, bombs blowing up when ideas are discarded, and so on. The possibilities are endless.

1. *Select your problem.* Write the problem as a definite question, as specifically as possible.
2. *Choose the participants.* The ideal number of participants is between six and twelve. Participants should have a positive attitude and be fluent and flexible thinkers. They should be strong, independent personalities who are excited about participating and feel a genuine need to improve goods and services. Someone who has the power to make and implement decisions should also be present.

A note of caution about the invited decision-maker: It's important that the group leader control and put in perspective the decision-maker's opinions, as nothing subdues a subordinate faster than the strong opinion of authority.

3. *Choose the environment.* The preferred location is a comfortable room off-site. The meeting leader should communicate a strong sense of urgency and a hunger for innovative ideas, but should allow for frequent breaks.
4. *Select a group leader.* The group leader should have strong interpersonal skills and be able to paraphrase and find analogies for suggestions. The group leader should:
  - *Prepare in advance as much as possible.* Ask each participant to become as familiar as they can with creativity exercises. Plan the meeting carefully.
  - *Invite people from diverse areas:* non-experts as well as experts on the situation, and people who can make decisions about ideas generated by the group. Discourage observers, onlookers, and guests. Just as a piece of shell can take all the fun out of an egg salad sandwich, observers can spoil a session. Every attendee should be a participant.
  - *Write an agenda and send it to all invitees.*
  - *Employ a variety of creativity techniques to get ideas flowing.* Use humor and bizarre examples to loosen people up.
  - *Focus on the challenge.* Be specific about what decisions have to be made and continuously summarize the group's progress throughout the meeting.
  - *Encourage any and all ideas, the more bizarre the better.* Pay attention to the *ideas*, and avoid identifying specific ideas with the person who suggested them.

- Be prepared to go back and manipulate ideas. Creativity always involves manipulation. Use questions that are designed to manipulate the subject in some way so as to change its position, rearrange its components, exaggerate some part, or alter the attributes to produce a series of ideas in a short time. Use the questions in chapter 9, SCAMPER.
  - Emphasize each person's unique contribution to the meeting.
5. *Select a recorder.* Assign someone to record all ideas the group suggests. If the ideas are not recorded, they will vanish completely.

After brainstorming, the group leader or the group as a whole should arrange the ideas into related groups to prioritize and evaluate them. In the evaluation stage, some will be discarded, some will stand out as worthwhile, and others will lend themselves to further modification and manipulation.

Try using generative graphics such as large wall-mounted scrolls of paper to facilitate group problem-solving. Record the ideas with a cartoon, diagram, or written phrase using large colored felt markers. The idea is to stimulate full and energetic participation, and to find colorful, stimulating, and graphic ways to portray ideas and illustrate the group's thinking. For many of us, this method of sketching ideas is closer to how our thoughts naturally grow. Later, your generative graphics can be translated and recorded.

A home construction company brainstormed new garage designs by using generative graphics. They stimulated quite a few unusual designs and decided to focus on designing a home double-deck garage, ten feet wide and twenty feet high. One car is hoisted on a lift. This is an ideal design for those who have limited lawn space or own classic or rarely driven cars, since the roof completely obscures the car on top. The construction company then created a program to maintain the lift arrangement for an annual fee.

6. *Follow up.* Directly after the meeting, have a lunch, dinner, or cocktail party to celebrate the group's achievements. Write letters to the supervisors of participants acknowledging each individual's contribution to the session.

It's a good idea to send each person a categorized list of the ideas that the group generated so that they can continue working on those ideas and keep the momentum of the brainstorming session going.

Another good follow-up is to ask each participant to report back on at least one idea he or she thinks is worthy of action, and four or five recommendations for implementing the idea.

A shopping mall staff brainstormed ways to generate more traffic for its stores. One of the ideas was a simple message board for shoppers. Two days after the meeting, a participant forwarded plans and detailed drawings for an electronic message and information center with user-friendly computer message stations. Responding to a series of options the computer gives you, you can read a message from a friend, respond to it, or leave a new one for a specific person (secret passwords can be used) or for the world. Press a button and you can get a printout. All for free. The idea is to turn the mall into more than a shopping mall—it becomes a central message station, which generates customers for the stores.

7. *Evaluate the ideas.* If you try to get hot and cold water out of a faucet at the same time, all you get is lukewarm water. If you try to evaluate ideas as they are being generated, you will not get the ideas hot enough or the criticism cold enough. Do not evaluate ideas until the end of the session.

At the end of a brainstorming session, make three lists: ideas of immediate usefulness, areas for further exploration, and new approaches to the problem.

The leader can categorize the ideas alone, or he or she can have the group evaluate the ideas by voting on the most useful.

Strive for quantity. List *all* ideas as they pop up no matter how similar they may seem. In the figure in the margin, a series of arcs are placed, one on top of the other, to form a column. Each arc is exactly the same size, so they should form a perfectly straight column. Yet, the top of the column appears wider than the bottom.

By repeating a simple arc, we produced an illusion, a distortion in perception. We see something different from what is actually presented on the page. In the same way, when you list ideas, no matter how similar, someone may perceive something new and different.

One group brainstormed the problem of unwanted telephone calls: obscene calls, heavy breathers, salespeople, and so on. Their challenge was: "In what ways might we eliminate unwanted telephone calls?"

One idea offered was: "Why can't we trace the calls and make revenge calls to get even?" After other ideas were listed, the group came up with the revenge telephone. A revenge telephone is actually an answering machine

with prerecorded fight-back messages. You can access any message by selecting a key when you pick up the phone. Press one key and the offending party gets a 100-decibel blast. Another key and a threatening male voice shouts, "What the hell do you want?!"

Each member of the group should think of ways to improve ideas or to combine two or more ideas into one better idea. The group leader should keep asking, "what else?" and "how else?"

Another member suggested: "Instead of an answering machine, why not develop a telephone screening box that would provide protection not only from obscene telephone callers but from salespeople as well?" The group came up with a simple screening device you can hook up yourself. It can screen calls before ringing the telephone by asking the caller to enter their secret code. If the caller did not have the code, they would have to leave a message. The phone would not ring for these calls. You could have a variety of codes: one for close friends and relatives, another for business that would only ring the phone during business hours, and so on.

Another member said: "Something somebody said gave me an idea. The idea has nothing to do with obscene telephone calls, but I think it should be explored. Why can't we develop a two-headed public telephone?"

The idea as she described it: "Suppose you and your friend are in town and want to meet a third friend. You have to decide where and want to discuss it together. If you had a public telephone with two receivers, one person could listen as the other takes down directions. A two-headed public telephone would probably generate more money, as the conversations would tend to last longer.

Tag on to ideas and make new ideas out of previous ones. It's much easier to build on ideas than to keep creating new ones. Keep asking "what else?"

Another person offered: "Let's get back to the answering machine. How about a machine that doesn't record messages? You could design a machine that performs like a real secretary. The machine would have a variety of different prerecorded responses that a person could use to fake the caller."

*The idea:* An answering machine that allows you to monitor incoming calls, ask questions, and give the appropriate response without ever picking up the phone. For instance:

"Hello, this is the office of Richard Stratton. Who's calling, please?"

"Hi, this is Alan Spiegel from the Acme Energy Co. May I speak to Mr. Stratton, please?"

Now, Mr. Stratton does not know who Spiegel is or what he wants, so he pushes the response button that says: "Could you please tell me what you want to talk to Mr. Stratton about?"

"I want to show him our new line of energy-saving windows."

Ah! A salesman whom Stratton does not want to talk to, so he pushes another response button, which says: "I'm sorry, Mr. Stratton is out of town and won't be back for six months."

The caller thinks he's talking to a real person, and Stratton is able to respond with various messages while he monitors his incoming calls with impunity. To make it particularly human, the machine doesn't take messages.

Once this group started listing and manipulating, they came up with four new products: The revenge telephone, the telephone screening device, two-headed public telephones, and the receptionist answering machine.

The power of association is that it is a two-way street. When a group member suggests an idea, he almost automatically steers his imagination toward another idea. At the same time, his ideas stimulate other participants' imaginations and associative powers. A spark from one mind will likely light up ideas in others, much like a string of firecrackers.

A fruit wholesaler and his staff brainstormed ideas for a unique gift business.

One person's idea was to promote an atypical fruit as a gift item, such as a watermelon. This triggered another person to remember that watermelons can be grown into any rectangular or pyramidal shape. Another member offered ways to add personal messages grown into the skin by using masking tape. The idea they finally settled on: custom-shaped watermelons with personal messages grown into their skins.

## **LORDS OF DISCIPLINE**

Sometimes meetings stall because participants are too tightly focused on the problem and on structured ways of doing things. I call these people the Lords of Discipline.

If a meeting is peopled by the Lords of Discipline, a group leader has to move them away from their disciplined way of looking at problems. Doing so could be likened to helping them make the transition from driving on the left side of the road to driving on the right.

Suppose your challenge is to create an advertising program for a new movie. Your meeting is staffed by Lords of Discipline who can't move beyond the traditional ways of advertising and marketing movies. Their



thinking is constrained by focusing too much on the problem and not enough on the process. By asking a series of abstract questions, you can sometimes loosen their focus. These questions might include:

- "What catches people's attention?"
- "What surprises people?"
- "What shocks people?"
- "What do people enjoy?"
- "Whom do people respond to?"
- "What do people respond to?"
- "Who do people admire?"
- "Whom do they want to talk to?"

Have them list their responses, then use those responses as stimuli for new ideas.

An advertising agency was given a contract by a foreign brewery to reinvigorate American sales. The challenge was to reach men ages twenty-one to twenty-nine. The agency's research showed that these men are not sitting in front of the TV. They are playing video games; they're in bars.

The agency started the session with the general question: What catches the attention of young men? Responses included: nude girls, beautiful women, NASCAR, football, free drinks, celebrities, bodybuilding, and so on.

They listed the responses and free-associated from them. Beautiful women and free drinks reminded them of young people using pickup lines in bars. This stimulated the idea for the brewery to spend its advertising money to dress beer bottles in agency-designed back labels, novelties meant for frisky barflies to use as icebreakers. "I'm with the band," says one. "Of course they're real," reads another. Who could resist, "I'm a hottie magnet." This radical approach increased sales by 40 percent—with no television advertising.

## **BRAINSTORMING BULLETIN BOARD**

Use a bulletin board to brainstorm creative ideas at your office. Place the bulletin board in a central location, write the problem to be solved on a piece of colored paper, and place it in the center of the board for all interested parties to see. Anyone with an idea or suggestion about the problem writes it on a white piece of paper and places it under the problem on the board.

The advantages of this technique are:

1. The problem is visible and, thus, will be on the minds of all interested people.
2. It spurs ideas by association. As one person reads the problem and ideas on the board, he or she is likely to think of a new idea.
3. You can leave the problem up as long as you like. This gives people sufficient time to consider it.
4. If few or no people offer ideas, you might consider ways to encourage workers to become more creative.

One company in Rochester, New York, put up such a board and announced that it would pay \$100 to anyone who came up with an idea that could save the company money immediately. The first winner was an employee who suggested that the award be cut to \$50.

The next challenge posted was: "In what ways can we improve our advertising?" The winner was an employee who suggested that a better way to advertise was to give people small packets of tissue paper with the company's message on them. This is a practical item that people will carry around with them and use often. It was their best promotion ever.

### **SOLO BRAINSTORMING**

Take a pack of index cards and write your ideas on the cards. Jot down one idea per card, put it aside and write your next idea on the next card and so on until you run dry. Write the ideas as they occur to you—good ones, bad ones, bizarre ones, exotic ones, all mixed up together without regard to logic or value. The two keys to this technique are: (1) produce the greatest possible quantity of ideas, and (2) do not evaluate any idea until you have listed everything you can think of.

When you are finished, take your pack of idea cards and:

- Sort and evaluate them.
- Combine ideas.
- Free-associate from the ideas to create other ideas.
- Imagine how an idea would work and change it.
- Reverse it to see what the opposite idea is.
- Rearrange, adapt, transpose, or substitute for the ideas.
- Consider each idea from another point of view.
- Draw or diagram the idea.

- Make a metaphor out of it.
- Force connections between two or more ideas.
- Imagine what a critic would say about an idea and modify it accordingly.
- Sleep on it.

Assume your challenge is to come up with ways to differentiate your bank from other banks. The first idea that occurs to you is, "Why not make the bank comfortable and homey?"

Rather than rejecting this idea as being impractical, by working with the concept, you could come up with a new process of handling banking transactions. For example, you could create a bank where you hand your money and forms to a receptionist, who passes them to a row of clerks for processing. Instead of being frustrated while you wait in line, you can then sit in a homey atmosphere in a comfortable chair, watch TV, read magazines, and sip coffee. The clerk would call your name when your transaction is complete.

## BRAINSKETCHING

What's darker: a Christmas tree or a frozen pea? Does a lobster have a mouth? How many windows are there in your living room? If the letter "D" is turned on its back and put on top of a "J," what does this remind you of? Many of us think visually and not verbally. You might ask each participant to draw a sketch of their idea on how to solve the problem. Sketching ideas provides visual stimuli to spark your imagination.

During a rehearsal of Debussy's *La Mer*, Arturo Toscanini found himself unable to describe the effect he wished from a particular passage. After a moment's thought, he took a silk handkerchief from his pocket and tossed it high into the air. The orchestra, mesmerized, watched the slow, graceful descent of the silken square. Toscanini smiled with satisfaction as it finally settled on the floor. "There," he said, "play it like that."

*Image board.* This is one technique that the Ford design center uses to inspire new car designs. When setting out to design a midpriced car for upwardly mobile families, the designers put together a wall-size board of photographs and drawings. They use pictures to answer such questions as: What kinds of these houses do these car-buyers live in? What kind of watches do they buy? Where do they go on vacation? What kind of art do they hang on their walls? What do their coffeepots look like? How do they dress?

As the board of pictures grows, an understanding of who is going to buy this car and what might appeal to them begins to emerge. As the design

process moves along, the fresh new car designs that are created can be checked against the information the image board contains. Because it's visual, this check-off can be done quickly and—again, because it is visual—the experience is not hidebound or restrictive.

As you are working on a problem, if you find pictures, photographs, or diagrams that are relevant to your target, pin them up on the wall in front of you. Add to this image board as new pictures become available. Mix your sketches of ideas in among them.

Automobile designers at Mercedes-Benz had a large image board where interesting shapes and images were tacked on. One designer was enthralled with the shapes, textures, and colors of exotic fish. The designers became enthralled with the boxfish. Despite its boxy cube-shaped body, the designers discovered the boxfish is in fact a perfect example of an aerodynamic streamlined shape. The structural shape of the boxfish was adapted by the designers to create the efficiently designed DCX, which gets seventy to eighty-four miles per gallon.

## SUMMARY

Next time you see geese flying along in V formation, you should consider what science has discovered about why they fly that way, which provides a good model of teamwork. As each bird flaps its wings, it creates an uplift for the bird immediately following. By flying in V formation, the whole flock adds at least 71 percent greater flying range than if each bird flew on its own. The geese get where they are going more quickly and easily because they are traveling on the thrust of one another.

When a goose falls out of formation, it suddenly feels the drag and resistance of trying to go it alone—and quickly gets back into formation to take advantage of the lifting power of the bird in front. If we have as much sense as a goose, we will stay in formation with those people who are headed the same way we are.

When the head goose gets tired, it rotates back in the wing and another goose flies point. It is sensible to take turns doing demanding jobs, whether we're talking about people working in an organization or geese flying south. Geese honk from behind to encourage those up front to keep up their speed. We should encourage our leaders as well with shows of encouragement.

Finally, when a goose gets sick or is wounded by gunshot and falls out of formation, two other geese fall out with that goose and follow it down to lend help and protection. They stay with the fallen goose until it is able to fly or until it dies, and only then do they launch out on their own, or with another formation, to catch up with their group. We should help others keep up with the rest at work by working with them.