



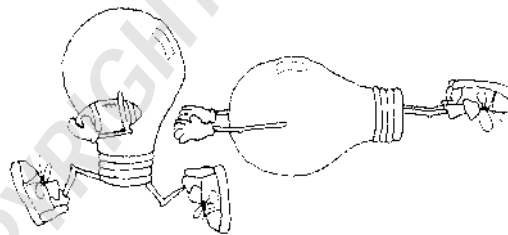
Chapter 1

Creativity and Problem Solving

Creativity can solve almost any problem. The creative act, the defeat of habit by originality, overcomes everything.

—George Lois

Before applying any of the activities presented in this book, it first is important to establish some context. This chapter provides an overview of the importance of idea generation methods, a typology of the different types of activities, and information for facilitators on how to use them



Rapidly changing environments with complex and diverse elements require flexible and innovative responses. Rigid operating systems are ineffective in such environments. Flexible systems, in contrast, are characterized by multiple solution possibilities. Creative solutions can provide flexibility by increasing our options and helping us cope and adapt. The more ideas we have, the more solution avenues will be at our disposal. New ideas can open up new worlds, new insights, and new ways of doing old things. Creativity, in short, can help us reinvent ourselves and our organizations.

Some management theorists advocate “reinventing the organization.” To start over, organizations must test assumptions about their processes and procedures and devise new ways of doing things. In effect, there must be a “defeat of habit,” as advertising executive George Lois notes in the quote at the beginning of this chapter. These new beginnings, however, require new ideas and new ways of looking at things—in effect, creative perspectives.

Why Use Creativity Techniques?

Organizations need creative perspectives and solutions to conceive new product, service, and process ideas, marketing strategies, and ways of allocating and using resources. *Creativity* is the magic word that can turn around an organization, company, division, or department.

Many organizations, such as 3M, Frito-Lay, and Texas Instruments, have introduced systematic creativity activities into their training and production processes with outstanding results. *Frito-Lay, for instance, reports documented cost savings over a four-year period of almost \$600 million due to their creativity training programs* (Morrison, 1997). Although all may not achieve such spectacular outcomes, we can improve our current products, programs, services, and processes more dramatically than we ever imagined.

There is nothing mysterious about creativity; it's just a matter of applying the right attitude and technology in a climate receptive to creative thinking and new ideas. The technology of creativity techniques can multiply and magnify human brainpower in organizations.

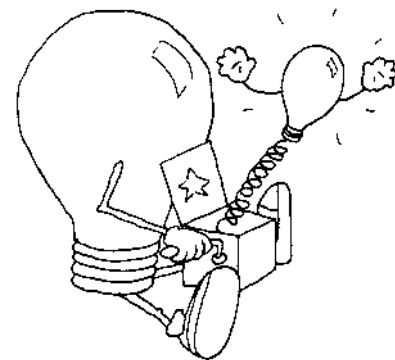
Unfortunately, much of this brainpower typically is underused and underappreciated. We often take our most important and useful resources for granted. Whether because of familiarity or simply lack of awareness, we fail to harness creative minds. Or when we do use this brainpower, we lack the techniques to leverage the mind's full potential whether working alone or in groups.

Generating Creative Ideas

Many of us don't have the resources or abilities to generate the creative ideas we need. This is especially true in the business world with its complex, ever-changing environments. Competitive pressures require faster delivery of new products and services. In short, businesses are pushed to innovate before the competition does. Failure to do so can yield even fewer creative responses—and less financial profit. The need to innovate is not limited to the corporate world, however. Service, government, and nonprofit organizations also can experience similar pressures to cope with changes in markets served or the regulations imposed on them.

Organizations cannot count on internal "creatives" or customer input to solve all their problems; even traditional group idea generation has its weaknesses. *Brainstorming, as practiced in many organizations, is about as effective as consulting a crystal ball.* Even experienced brainstorming groups find that the well runs dry after interacting with the same people year after year.

Most individuals and groups in organizations occasionally need a brainpower boost to achieve "home run" or breakthrough ideas. And they need a number of methods in their idea toolkits. The more methods they can employ, the greater the odds of producing a hot idea. This need is where organizational training can help.



Creativity Training in Organizations

In recent years, organizations have turned to formal creativity initiatives to help fill their "idea pipelines." These pipelines are the conduits they use to maintain competitive advantage or achieve objectives through a constant infusion of new ideas. Many product-

based organizations such as 3M and Procter & Gamble even try to generate an increasing proportion of their revenues through regular introduction of new products. Service and nonprofit or government organizations can do the same with their outputs, such as new ways to improve customer service or solicit donations. *Fresh ideas clearly are the engines that drive organizational innovation.*

There are a number of ways in which organizations can become idea generation fountains. Formal and informal in-house idea generation sessions probably are most common. Outside consultants often are brought in to facilitate planned, formal sessions. Or some organizations designate employees responsible for the generation and dissemination of new ideas. Other organizations use in-house idea generation most of the time, but periodically invite outside resources to help facilitate off-site brainstorming retreats. Of course, combinations of all of these also are possible.

Due to difficult financial environments, more organizations are looking to internal trainers to lead such sessions. *Once these trainers have received the appropriate training, they can deliver at least two services. The first is the design and facilitation of idea generation sessions for selected groups of employees.* These sessions can be scheduled several times a year or as needed. Thus, regular sessions might be held for issues of strategic importance—for instance, creating a new product line, service, or strategy to achieve a mission or vision statement. Similar sessions might be held whenever diverse input is needed for occasional tactical challenges.

The second service is training in how to use idea generation methods. Many of the activities in this book can be used without the assistance of a trained and skilled facilitator. The step-by-step presentations of the activities can be implemented by most groups with a little study and practice. Of course, *the ideal situation would be first to provide training in select activities, monitor and provide feedback when groups use them, and then encourage groups to apply them on their own, remaining available for consultations as needed.*

A Typology of Idea Generation Activities

Before looking at the activities, however, you might want to understand more about how they work. This knowledge should make them easier to use and easier to teach others to use, and also increase your understanding about creative thinking in general. If you don't want this information and want to begin using the activities, move on to Chapter 4 (or chapters following it).

It is important, however, to understand the distinction between individual and group activities. This is because the difference can be misleading with respect to which activities to use. In fact, for the purposes of this book, the distinction is an artificial one, based on how the activities originally were created. *Specifically, groups can use all of the individual activities, but individuals cannot use all of the group activities.*

This difference is because some of the group activities were designed originally with only groups in mind; others only for individuals. For instance, some activities involve passing idea cards or Post-it® Notes from one person to another. (You could try this as an individual, but you would probably feel a little silly!) Thus, activities that require interaction with other people must use other people. Some activities, in contrast, can be used by either individuals or groups. However, it is important to understand that *ALL of the 101 activities in this book can be used by groups and are presented for use by groups.*

Individual Activities

Individual activities can be classified in several ways. After reviewing the available activities, I settled on five (numbers for the individual activities are in brackets):

1. *Basic Idea Generation* (Chapter 4) require relatively little effort. An example would be asking a friend for an idea (Brain Borrow [2]).
2. *Related and Unrelated Stimuli* (Chapter 5) generate ideas by providing some sort of stimulus to play against. Such stimuli might be related directly to a problem or unrelated. Examples of related stimuli would be using the elements of a fund-raising campaign to solicit money for your nonprofit organization by using activities such as Bi-Wordal [22] or Combo Chatter [24]), both of which rely on words related to the problem. For the same problem, you also might play off of (free associate from) unrelated stimuli, such as unrelated pictures (for example, Picture Tickler [17]), words (PICLed Brains [16]), and objects (Tickler Things [21]), and see what ideas result.
3. *Combinations* (Chapter 6) blend or compare different problem elements and use the combinations and juxtapositions of elements to prompt ideas. Examples include Combo Chatter [24], Noun Action [28], and Parts Is Parts [30].
4. *Free Association Activities* (Chapter 7) rely on each previous idea triggering a subsequent idea to stimulate creative thinking. An example would be using the words "What if?" to help inspire ideas (What if. . . ? [49]). Or you might rely on exaggeration (Exaggerate That [39]) to help stretch thinking.
5. *Miscellaneous Activities* (Chapter 8) represent two types of activities: *backward* and *just alike only different*. Backward activities reverse some aspect of a problem to produce a different perspective and, it is hoped, new ideas. Thus, a group might reverse assumptions about a problem (Turn Around [52]) and use the reversals as stimulators. Just alike only different procedures use analogies to generate ideas. Two examples are Bionic Ideas [53] and Chain Alike [54].

Group Activities

One way to classify group activities is according to whether they are brainstorming or brainwriting methods. *Brainstorming*, of course, refers to traditional verbal idea generation in a group. *Brainwriting* is a term coined in Germany that refers to the silent, written generation of ideas in a group setting.

Brainstorming and Brainwriting

All things being equal, brainwriting groups generate more ideas than brainstorming groups. One reason is that when we interact verbally, we are often not as productive as we might otherwise be. We criticize ideas when we should not, we feel inhibited, we worry about what other people will think of our ideas, and we become sidetracked with various issues and hidden agendas. More important, research suggests that the superiority of brainwriting over brainstorming is due primarily to the fact that only one person can speak at a time in brainstorming groups (Diehl & Stroebe, 1991; VanGundy, 1993). Brainwriting groups, in contrast, may have four or five people generating ideas simultaneously.

If brainwriting yields more ideas than brainstorming, why even use brainstorming

groups? The answer is that we are social creatures. Most of us would have trouble not talking for a long time. We clearly can satisfy more social needs in brainstorming groups. Moreover, some brainstorming activities provide a structure that offsets some disadvantages. Thus, *if a group follows a technique's procedures as written, it should be more successful than a traditional brainstorming group with no structure.*

To test these notions, I once conducted an experiment using six different types of idea generation procedures (VanGundy, 1993). Each procedure was tested using six categories of four-person groups:

- Groups using procedure 1 generated ideas without any formal instructions.
- Groups using procedure 2 generated ideas but were instructed to follow brainstorming rules and defer judgment (as were all subsequent groups).
- Groups using procedure 3 generated ideas using one brainstorming technique (PICLeD Brains [16]).
- Groups using procedure 4 generated ideas using a brainwriting procedure in which the group members did not see one another's ideas.
- Groups using procedure 5 generated ideas using a brainwriting procedure in which the participants did see each other's ideas (Brain Purge [82]).
- Groups using procedure 6 generated ideas using combinations of brainstorming and brainwriting activities. In addition, each group using procedure 6 contained two skilled idea generation facilitators.

All the groups had 45 minutes to generate new snack food product ideas (which were evaluated later by a food products company). When ideas were counted, the groups using procedures 1 through 5 collectively generated about 1,400 ideas, and the groups using procedure 6 generated about 1,200 ideas. In fact, groups using procedure 6 generated more than ten times as many ideas as groups using procedure 1!

The results also suggested that *groups using procedure 5 (brainwriting while seeing one another's ideas) generated almost four times as many ideas as groups using brainstorming without instructions.* There clearly are advantages to both using brainstorming and brainwriting procedures (as well as using skilled facilitators).

Related Versus Unrelated Stimuli

Another way to classify group activities is according to whether the stimuli used are related or unrelated to the problem. An example of a related stimulus would be using different parts of a coffee mug to suggest ways to improve it. Most combination activities are based on this principle. Thus, you might combine the handle with the base to spark an idea. In this case, you might think of an integrated handle and base cup warmer. You could attach different cups and the coffee would keep warm even while the cup is in your hand.

An example of unrelated stimuli would be using different parts of a coffee mug to suggest ways to improve a product such as a flashlight or to improve customer service. For instance, the heat of a coffee mug might suggest adding a heated function to a flashlight to serve as a handwarmer, and a mug holding a liquid might prompt the idea of a flashlight with a small tube of water for emergencies. Or a coffee mug might suggest the idea of rewarding loyal customers with designer coffee mugs or to develop a customer

service focus on “holding” onto “hot” customers by identifying them and devoting resources to retaining them. In general, unrelated stimuli are more likely to produce novel ideas than stimuli related to the problem.

Organization of Group Activities in This Book

The group approaches in this book have been organized according to whether they primarily use brainstorming or brainwriting and whether they use related or unrelated stimuli. One chapter is devoted to each combination below:

- Brainstorming with Related Stimuli (Chapter 9)
- Brainstorming with Unrelated Stimuli (Chapter 10)
- Brainwriting with Related Stimuli (Chapter 11)
- Brainwriting with Unrelated Stimuli (Chapter 12)

The different combinations possible are shown below:

Stimuli		
Brainstorming	Related	Unrelated
Brainwriting	Related	Unrelated

This organization of the activities is more a matter of convenience than anything else. However, a few guidelines may help you decide which ones to use:

- Use brainwriting activities (Chapters 11 and 12) if: (1) there are conflicts or major status differences among members of a group or (2) there is relatively little time, group members are inexperienced at brainstorming, and no experienced facilitator is available.
- All things being equal, use both brainstorming and brainwriting activities to offset the weaknesses of each.
- If you want to generate unique ideas and the group is relatively inexperienced, use activities with unrelated stimuli (Chapters 10 and 12).
- When selecting group activities, remember that any of the individual activities also will be appropriate for groups.

Facilitator Guidelines for Working with Group Activities

Before learning about group activities, you need to know a little about how to work with groups to generate ideas. Here are some points to keep in mind:

- *Use groups of about five people.* Research has consistently shown that this is the optimal size for problem-solving groups. Four will often work well in trained groups or groups with a skilled facilitator. In a pinch, groups of six or seven will work under the same conditions.
- *Make sure all groups understand the basic ground rule of deferring judgment.* Try to create a fun environment. Encourage playfulness and humor. Research shows that groups

characterized by laughter and humor tend to generate more ideas than their less humorous and playful counterparts.

- *Use as many activities as you can in the time available.* Different activities can spark different ideas depending on the personalities and experiences of the group members. What works in one group may fizzle in another. I can still remember a group member telling me that a certain technique wasn't any good and that I should stop using it. Later that day, a member of another group remarked to me that the same technique was one of the best he ever had used. Go figure.
- Above all, when using the activities or facilitating ideation sessions, always instruct participants to follow one basic rule:

DEFER ALL JUDGMENT WHEN GENERATING IDEAS.

This rule is essential for generating ideas and you should encourage them to reinforce this rule as they interact with each other. Emphasize that the more ideas they list, the greater the odds that one will resolve their problem. They won't produce many ideas if they spend time criticizing and evaluating them. They should save evaluation for later, after they have listed all the ideas they can. You even might have participants repeat the following phrase aloud five times in a row:

No evaluation with generation!

No evaluation with generation!

No evaluation with generation!

No evaluation with generation!

NO EVALUATION WITH GENERATION!

