

When Sparks Fly – Harnessing the Power of Group Creativity

By Dorothy Leonard and Walter Swap
Harvard Business School Press, 1999

This book is about how groups of people working together can innovate. The authors start off by exploding a few myths:

- Creative output depends on a few often flamboyantly different individuals - Creative people are not necessarily flamboyant.
- Creativity is a solitary process - Creativity often emanates from groups of people working with complementary skills rather than an inventor toiling as a lone genius.
- Intelligence is more important than creativity - Intelligence and creativity are moderately correlated only up to a moderate IQ. Beyond that, all individuals are equally capable of creative thinking.
- Creativity cannot really be managed - Even if creativity may involve some intuition, managers can shape the creative process, design the group composition, enhance the physical environment, provide the tools and techniques to move things along and lead the creative change.
- Creative groups are found only in the arts and high technology companies - Creativity thrives everywhere, not necessarily in the arts or in high tech industries.
- Creativity is relevant only to big ideas. It is not just big ideas that make up creativity. Even small improvements can advance the organizational cause.
- Creativity only involves coming up with new ideas. While coming up with new ideas is important, equally important is reflecting on these ideas and selecting the really useful options.

In short, as the authors mention:

- Creativity is a process
- Creative individuals are important but not all important
- The right group composition is important
- Creativity can be learned by groups
- Creativity is not just about being different or unusual

The authors define creativity as a process “of developing and expressing novel ideas that are likely to be useful.” The end result of the creative process is innovation, i.e. embodiment, combination or synthesis of knowledge in novel products, processes and services.

The creative process involves different steps, not necessarily linear. Within any step, a smaller cycle of some or all of the five steps can occur.

- Preparation
- Innovation opportunity
- Generating options (divergence)
- Incubation
- Selecting options (Convergence)

Creativity is difficult without relevant knowledge and experience. It is knowledge which leads to a prepared mind that can make sense of what is happening around us. There must be opportunities

for innovation. Innovation is all about exploiting opportunities. It could be a chance to improve the current state of affairs or a threat requiring an immediate response to survive.

The crux of creativity is generating a large number of options. Divergent thinking must precede coming up with a solution.

Incubation involves mulling over or reflecting on opportunities and testing them mentally. A pause while pursuing what seems to be a “hot” solution is often useful.

Achieving convergence, i.e. selecting one of the options is a huge challenge. The skills needed here are very different from those needed for stimulating divergence.

After convergence has been achieved, the selected option has to be assessed and implemented. The technical and financial feasibility has to be evaluated. A lot of creativity is involved in implementation too.

Creative abrasion

Intellectual diversity leads to creative abrasion. In a highly diverse group, even if individual members are thinking within the boundaries of their own experience, collectively they will have numerous perspectives and those perspectives which can be combined in novel and useful ways.

Creative abrasion must not be equated with conflict. What needs to be done is to embrace appropriate, cultural, disciplinary and thinking style, build diversity into groups and then manage effectively the resulting abrasion for creativity.

The starting point in creativity is understanding oneself. Our thinking style affects our ability to lead the group in creativity. We must be conscious of our biases, which sometimes are unknown to us. Only then, we can build diverse teams with complementary capabilities. There should be people who are different from us and who can challenge us. These “aliens” should be protected.

When groups meet, they must avoid the pitfall of premature convergence i.e. coming to an agreement quickly. Such a tendency may arise because of different reasons:

- Perceived time pressure
- Too much direction from the group’s leader
- Insulation of the group from outside opinion
- Eagerness to remain within the group
- Norms that block divergent thinking

Some of the norms that block divergent thinking include:

- Don’t interfere with other people’s jobs
- Try to keep everyone happy
- Don’t contradict the boss
- Conform to the group
- Don’t presume to know more than your elders

As the group approaches consensus, someone should play devil's advocate and challenge the position. Dissent can be uncomfortable for everyone. So it is important to make it clear that dissent is normal behavior and is vital to the creative process.

There are three factors to keep in mind to avoid straitjacketed thinking:

- Functional fixedness – The inability to look beyond how something normally functions.
- Fixation – Approaching a problem from the “obvious” direction
- Confirmation bias – Tending to seek support for our convictions and being reluctant to look for contrary evidence.

To generate options within the group, various approaches are possible:

- Brainstorming
- Trying out different prototypes
- Using metaphors and models from nature – nature tends to take a trial and error approach while solving problems.
- Reach outside the group

A concept introduced by the authors is empathic design. Empathic design involves developing empathy for others' point of view and using that perspective to stimulate novel design concepts. The central premise in empathic design is that people often cannot articulate what they want or need in a innovation. People often do not tell us about needs they don't know they have. They also won't tell us about the ones that embarrass them for some reason. They will say what they think we want to hear and will often prophesy behaviors that they will never undertake. At the foundation of empathic design is observation and the hunt for something “cool”. This idea is to stretch the boundaries of the options by seeking non-traditional, possibly idiosyncratic and extreme examples of solutions before they become popular.

Incubation is the phase between divergence and convergence. In this phase, the brain continues to work on the problem, but freed from the constraints of conscious, rational, logical thinking that tends to impede creativity. During incubation, new options may emerge along with sudden insights of convergence. By tapping into the unconscious during a relaxed state of sleep, creativity can be tremendously boosted. Dreaming, meditation, showering, driving to work, may all provide opportunities for subconscious thought but only if sufficient time is allowed for reflection.

Convergence involves:

- Working within reasonable boundaries
- Coming to a common, shared concept of innovation
- Making the group define the goal clearly and keeping members focused on that goal

Prototypes are invaluable communication tools. They provide a focus for discussion among people with different perspectives. Even if there are differences in thinking styles/professional background, all individuals address the same concrete embodiment of an innovation concept.

The human brain has limited ability to absorb things around us. So we learn early on in life to focus selectively on some things and ignore others. We leap to conclusions quickly. People thus climb up the ladder from data to final inference rapidly. There are two ways to use the ladder of

inference to help a group converge. A group can climb the ladder openly and self consciously. This can help the group to understand the basis for conclusions drawn by different people. Group members can also reverse engineer the ladder and retrace the logic when they have ended up at loggerheads over some decision.

Organizations need a creativity ecology – an independent, interactive, self sustaining and reinforcing system that includes not only people and processes but also settings. Internal space, acoustics, furniture, etc. may not make people more creative but they can support or inhibit creativity. The ambience must encourage spontaneous, unplanned communication among group members. People should be able to configure or control their physical surroundings to match the desired cognitive activities. The objective is to make the form fit the function. Free space must be provided to encourage creativity and inspire experimentation.

Creative groups require guiding values and norms that channel individual energy effectively. There are two norms of behavior that differentiate creative from non creative ecologies: risk taking and the ability to fail forward. Risk is involved while implementing any creative idea. To encourage risk taking, managers must be careful about how they give feedback. Failures must be viewed as opportunities for growth. But a distinction must be made between intelligent failures and stupid mistakes. Failing forward means viewing intelligent failures in a positive way. Intelligent failures are different from making repeated mistakes.

To encourage creativity, leaders need four skills: listening, presenting, connecting with others for ideas and honest communication. When taboo issues obstruct discussion and keep group members from dealing honestly with each other, any agreement will be shallow. Members are not likely to take any ownership for the agreement.

The psychological environment must encourage chance ideas and the redirection of failures. Many scientific discoveries have occurred serendipitously as a result of an experiment going wrong. People should be made to realize that failure in one realm may translate into success in another.

Creativity involves managing paradoxes. Creativity draws on both the highly prepared mind and on the fresh perspectives of newcomers. It involves encouraging creative abrasion while maintaining the cohesiveness of the group. Creativity means striking a balance between freedom and structure. Too much freedom means the ideas are novel but without relevance. If there is too much structure, new ideas may get throttled.

To tap the creativity of groups, passion must be stimulated by:

- Setting difficult, attainable goals
- Granting people autonomy, time for personal projects and opportunities for further learning
- Matching people with the jobs within the organization most likely to kindle their passions
- Creating a climate of optimism and confidence in the future.

Creativity is not only a process but also an attitude. It involves being alert to innovation opportunities, constantly challenging the routine and being open to change. Chances to be creative do not come neatly packaged but diffused over time in tiny acts or omissions of action.