



# The Journey of Brainstorming

Hanisha Besant

---

## Abstract

The purpose of this paper was to trace the origins of brainstorming, to understand how the process evolved from its introduction in 1953 by Alex Osborn, a creativity theorist, and businessman, and to identify how and why brainstorming has come to be used today. After reviewing several studies of brainstorming and exploring its history, it was found that two prominent schools of thought influenced the design of brainstorming sessions in the 1950s. One school of thought emerged from a study conducted by Yale University, which held Alex Osborn's design in a controversial light, and the other remained truer to Alex Osborn's model of the Creative Problem Solving process. After discussing the two schools of thought and analyzing studies based off of them, this paper explores some companies and popular blogs about brainstorming to see how the schools of thought have influenced the understanding and use of brainstorming today.

---

*“It is easier to tone down a wild idea than to think up a new one”*

*Alex Osborn*

The word brainstorming was originally introduced by Alex F. Osborn in 1953 through his book *Applied Imagination: Principles and Procedures of Creative Thinking*. Since 1953, brainstorming as a word has spread around the globe with definitions that vary in the minds of many. The Meriam Webster's dictionary defines brainstorming as “a group problem-solving technique that involves the spontaneous contribution of ideas from all members of the group; the mulling over of ideas by one or more individuals in an attempt to devise or find a solution to

a problem” (Webster 2015). Though this definition lacks the expression of complicated and varied intricacies of the brainstorming process as it has been theorized and practiced, it is symbolic of the popular use of the word “brainstorming.” In the broader culture, brainstorming basically has come to be synonymous with the creative idea generating process. While brainstorming became a tool for creative problem solving in this general way, it is very different from the fundamentals of the original description of the brainstorming process designed by Alex Osborn.

## Origin of Brainstorming

In a world that was emerging from the scene of World War I in 1919, an ambitious New Yorker, with a keen interest in creative thinking co-founded an advertising agency called Batten, Barton, Durstine, and Osborn. Inc., BBDO. The ambitious thirty-one-year-old man was Alex F. Osborn, who had volunteered in World War 1 as a war bond promoter along with two of the co-founders of BBDO, Bruce Barton, and Roy Durstine. The company went on to become a flourishing advertising agency until 1939 when it started showing a decline in its profits and lost one of its key players, Roy Durstine, who ventured out to start an independent advertising agency. It was in such desperate times that Alex Osborn pressed into his passion for creative thinking to figure out ways in which he could encourage his employees to “think up,” a term he used for creative idea generation. In 1942, Osborn introduced this concept of “thinking up” in his work *How to Think Up* which was a precursor to the brainstorming process that he later created. The process worked marvelously for the company. By 1951, BBDO became the second advertising agency in the United States of America to pass \$100 million in billings. In 1953, Alex Osborn introduced the process of brainstorming along with illustrations of the success stories of BBDO in *Applied Imagination*.

Alex Osborn was greatly influenced by the creative thinking theories of Graham Wallace, which included the fundamental elements of a creative thinking process, incubation, intimation, illumination, and verification, aspects of which can be seen Osborn’s design of the brainstorming process. Osborn was very specific about what his proposed process of brainstorming entailed. He came up with four basic rules for the process. The first rule established the end goal of the process, which was to generate as many ideas as possible. The emphasis was on the quantity of ideas generated rather than the quality of the ideas. The second rule was that no one was to criticize an idea. Osborn wanted to keep all judgments out of the idea generation process, so judgments were to be deferred until the brainstorming process was over. The third rule was that wild ideas were welcome, in fact, they were encouraged. The fourth rule was that participants were permitted to combine ideas or improve on each other’s ideas. Brainstorming, according to Osborn, was meant to be conducted in a group setting of approximately 5-12 people.

The process of brainstorming, at its very heart, was meant to be a counterattack on “negative conference thinking,” revealed Charles Clark, an associate of Alex Osborn in his 1958 book called *Brainstorming*. Osborn suggested that the participants in the group should have varying amounts of experience in the task that was at hand, however, he discouraged mixing participants from various levels in the company’s hierarchy within a brainstorming group. Other specifics that Osborn suggested were that participants had to be adequately informed in advance about the problem that would be tackled during the brainstorming session so that the creative focus would be on the specific problem. Also, participants were to be trained on brainstorming rules and techniques prior to the session by the facilitator. Osborn made it clear that the facilitator of the brainstorming session played a pivotal role in the process.

A typical brainstorming session in BBDO would be conducted in a bright yellow room to keep the atmosphere warm and unthreatening. Even the setting of the room’s furniture was strategic to set a relaxed mood so that creativity could be enhanced. The tables were generously supplied with pencils and pads, tools that could be utilized to capture and generate creative

ideas. A stenographer would record all the ideas that were expressed. After the brainstorming session, the stenographic record of the ideas would be sorted through and judged by someone in judicial authority within the agency. In the words of Tim Brown, author of *Change by design: How design thinking transforms organizations and inspires innovation*, brainstorming was therefore “a structured way of breaking out of structure”. BBDO, in 1956, through 47 continuing brainstorming panels with 401 brainstorming sessions, produced a total of 34,000 new ideas of which 2000 ideas were deemed of superior quality and worth investing in. These 2000 ideas could have potentially been nonexistent had the ideation process of brainstorming in BBDO not happened.

### **Changes to the Meaning of Brainstorming**

The success of the brainstorming process in BBDO quite quickly became popularly known in the American culture at large. It was a trending word in academia and in the business world. By 1958, eight out of ten of America’s largest corporations were utilizing the brainstorming process for idea generation. These included the Aluminum Corporation of America, Du Pont, Better Homes and Gardens, Kraft foods, RCA, and General Electric. In the realm of academia, schools like Harvard Business School, Massachusetts Institute of Technology, and the University of Southern California adopted the brainstorming process. Soon the process became a target for research in academia. One of the earliest and most prominent studies on brainstorming can be traced back to a Yale study conducted by Donald Taylor, Paul Berry, and Clifford Block in 1958. The objective of the study was to prove that individuals could generate more ideas on their own when compared to groups of people who brainstormed. They study utilized ninety-six students from Yale. Half of the students were made to come up with creative solutions to problems individually, and the other half were divided into groups of four to brainstorm creative solutions to the problems they were presented with. The groups of four were led by student leaders. The result of the study showed that individuals came up with more creative solutions to problems when compared to the groups of four. Interestingly, the results of the study generated the notion that individual brainstorming was more productive than group brainstorming, due to the way the word brainstorming was used within the research procedure.

Keeping in mind the general rules of brainstorming that Alex Osborn expressed, the Yale study’s experimental design left out some major elements of what contributed to the construct of brainstorming as a whole. Some of the flaws including the fact that the group sizes did not fit with the ideal size of five to twelve people that Osborn recommended for brainstorming. Also, the groups that were utilized by the Yale study were not necessarily representative of the experience level of the people that comprise of brainstorming groups in professional settings. In professional settings or even more realistic settings, individuals likely have ownership of the problem that they are trying to brainstorm about. The problems are not simply conjured out of thin air and then bombarded by creative mental forces to come up with a solution. The students used in the Yale experiment were presented with absurd problems such as the issues faced by people who suddenly grew an extra thumb. This is not akin to real life problems that the subjects would encounter. Moreover, individual brainstorming was a concept that did not fit within Osborn’s paradigm of brainstorming.

However, since 1958, there were a series of studies that were conducted on brainstorming, comparing the productivity of individual brainstorming sessions and group brainstorming sessions. These studies were based on the paradigm that was utilized by the Yale study, mimicking its design flaws thus enforcing the notion that individual brainstorming enhanced productivity when compared to group brainstorming. Also the focus of brainstorming shifted from producing mass quantities of ideas to ideas that were of superior quality. Thus deviating from Osborn’s intentionality of focusing on the quantity of ideas produced rather than quality. This trend triggered a divergent school of thought from Osborn’s original model of the brainstorming process. The divergence was expressed in the notion that individual brainstorming was superior

to group brainstorming, thus reducing the definition of brainstorming to a tool used for generating many creative ideas. Individual brainstorming was therefore defined as the process during which one person came up with as many ideas to solve a particular problem.

Though group brainstorming was beginning to get a bad reputation in academia, studies on individual vs. group brainstorming were prevalent. However, even with the new definition of brainstorming that began with the Yale study, there was some convergence in the conclusion of the Yale study and Osborn's thoughts on brainstorming. According to the Yale school of thought, anytime an individual focuses on a problem with the goal to generate ideas through free association, the act was called individual brainstorming, so it was basically a process of individual ideation. Interestingly, a close look at Osborn's model of the brainstorming process, reveals that he recommended this process of isolated ideation both before and after a group brainstorming session. Before the session, as noted earlier, participants needed to know and understand the problem they were going to look at during the brainstorming session, thus stimulating thought toward the problem. After the brainstorming session, a company executive or a leader took a look at all the ideas generated tackled the problem of sorting through the thousands of ideas to decide which ones were viable enough to act on. Therefore it can be said that, by definition of the Yale study, that individual brainstorming, in essence, occurred before and after the BBDO group brainstorming sessions.

In 1998, a review of 50 studies on brainstorming was conducted by Scott G. Isaksen, of the Creativity Research Unit of the Creative Problem Solving group in Buffalo, New York. The studies examined by Isaksen were among the most prominent ones from 1958 to 1988. Their review revealed that brainstorming was probably the most researched creative thinking technique, and yet the least understood. The review of the studies also showed the lack of adherence by the researchers to Osborn's original brainstorming model and pointed out some ways in which brainstorming or brainstorming research could be redesigned to assess the effectiveness of Alex Osborn's brainstorming model. The areas that needed special attention involved assessing real working groups instead of nominal groups, the impact of facilitation on the brainstorming process, and the amount of training the participants in the brainstorming groups receive prior to the session. Researchers that did not necessarily stick to the research paradigm created by the Yale study, began to revisit Alex Osborn's model of brainstorming and discovered that it was hard to prove or disprove Alex Osborn's notion that brainstorming, in the group setting, generated superior ideas when compared to individual attempts at ideation in simulated research settings. Moreover, according to a survey conducted in 2001 by Arthur Anderson LLP, an accounting firm that is among the top accounting and consulting firms in America, more than 70% of businesspeople claim that they brainstorm. Perhaps, this is why Research and Development departments of corporations and organizations that drive innovation culture have generated a keen interest in the study and utilization of brainstorming techniques.

### **Brainstorming in Corporate Culture**

Interestingly, we can still see the Yale school of thought in the application of brainstorming techniques in some major American companies established in the late 1900s. A classic example is that of Bill Gates, co-founder of Microsoft which was founded in 1975. In a Microsoft CEO summit in Redmond, Washington of May 2008, Bill Gates, shared how his company used the brainstorming process. The company leaned more toward the individual brainstorming school of thought which mimicked the process of using a suggestion box. In the process, approximately three hundred ideas individually generated by the company's employees were sent to Bill Gates. It was his tradition to take a week off about two times year, calling it the "Think Week" when he went through piles of paper and marked them individually to converge the best suggestions to create his own ideas. His "think week" would be spent alone in deep thought in the confines of an isolated cottage where he would not be disturbed. He was occasionally visited by a caretaker who dropped off prepared meals for him. Eventually, the model switched

so that not all the employees of Microsoft contributed to the ideas that Bill Gates received, instead fifty of the top engineers contributed to the idea pool, this time, the ideas were amassed electronically and were available on a site for him to assess. We can see how the emphasis of the brainstorming process in Microsoft was fine tuned to prescribe generating a better quality of ideas rather than quantity, an element that is of the Yale school of thought.

We can see a fusion of brainstorming techniques in the facilitation style of Steve Jobs, the co-founder of Apple, which was founded in 1976, and founder of NeXT Computer. In 1985, NeXT was a brand new company started by Steve Jobs when he and some other employees had been forced out of Apple. It was around this time that a brainstorming session conducted by Steve Jobs had been recorded by NeXT employees. The brainstorming session focused on getting a product out in the summer of 1987 which was eighteen months from the time of the video recording. The video reveals a room with a flipchart and employees sitting quite informally around the room with pencils and notepads in their hands. The session started with Steve Jobs explaining the issue that was the focus of the brainstorming session. The employees in the room were well versed with the problem and contributed ideas from their knowledge based on past experiences and understanding of the issue at hand. The session was intense and did not have the easy going atmosphere as proposed by Osborn. Steve Jobs was known to break the traditional rules of Osborn's no criticism approach where he quickly turned down topics that he thought were not relevant to the problem at hand in order to stay focused. So though the sessions were similar to Osborn's brainstorming process in the fact that the group sizes were about five to twelve, Steve Jobs maintained the focus on the quality of ideas rather than the quantity of ideas generated. Therefore, we see some elements of the Yale school of thought in the brainstorming techniques used by Steve Jobs.

In the case of IDEO, a global design company founded in 1994 and considered one of the leaders in innovation culture today, brainstorming is almost the religion of the organization. IDEO considers the brainstorming session as the engine of the company and conducts at least one brainstorming session a day which lasts for a period of maximum one and a half hour. They believe that it is impossible to sustain the mental and physical energy that is required for the optimal brainstorm beyond that time frame. They have built their brainstorming sessions largely on the rules of Alex Osborn with a few additions to perfect the process. They follow seven basic rules for their brainstorming session which will be discussed below.

Tom Kelly reveals that there are seven rules that IDEO applies to brainstorming sessions. These include 1) sharpen the focus, 2) have playful rules 3) number your ideas 4) build and jump 5) the space remembers 6) stretch your mental muscles and 7) get physical.

Interestingly, most of Alex Osborn's rules for brainstorming have been maintained and some of his suggestions and have been converted to rules. For instance, the first rule "sharpen the focus" reflects Osborn's suggestion that the brainstorming session should be focused on the problem at hand, only it was not originally proposed as a rule by Osborn. Moreover, rule number five "the space remembers" utilizes BBDO's concept of arranging the space in which brainstorming sessions take place to enhance creative thinking. All the other rules are similar to the rules Osborn proposed from the brainstorming process. It can thus be said that IDEO's culture is perhaps one that reflects Osborn's creative theories in its truest form.

### **Brainstorming as Expressed on Popular Blogs**

The competing yet in some ways related schools of thought about brainstorming that were born out of Osborn's work and the Yale study in the 1950s seem to evident in various forms in subsequent history. An examination of popular blogs in today's media environment and culture provides some indication of the extent to which and how these ideas about brainstorming are evident in the most recent years. These blogs typically have built brainstorming into the services or products they offer. Information presented on the internet, especially on popular websites and blogs, influences the thinking of its readers and plays a vital role in shaping a culture's

opinion. In taking a look at the internet to understand how brainstorming is generally thought about in the electronic age, some blog posts on brainstorming were analyzed. From a sample of blog posts, three of the blogs with the biggest number of followers have been selected to illustrate the types of thought relating to brainstorming. HubSpot, a company that sells business software for marketing has approximately 577,999 followers on its blog. In reviewing the blog posts it has on brainstorming, it is seen that the company recommends a structured form of brainstorming which utilized both individual and group brainstorming technique. HubSpot introduces the concept of the brainstorming key which consists of four boxes where structured ideas can be placed. The key is meant to facilitate the brainstorming process while maintaining focus on elements that are captured in the brainstorming key. Here we see the influence of the Yale school of thought where the focus is on the quality or relevance of the ideas. In another post, HubSpot makes some recommendations for group brainstorming. According to the suggestions, participants in a brainstorming session should come up with bad ideas prior to the session to warm-up. This suggestion breaks the no judgment rule of Osborn's brainstorming model as in calling ideas prior to a brainstorming session bad, a judgment has already been made that the first few ideas that people come up with during brainstorming are bad. The next few suggestions include deconstruction of ideas and building on other's ideas. This is in accordance with Osborn's rule that freewheeling is allowed. Furthermore, HubSpot suggests techniques like creating a mood board and doodling to enhance the process of ideation.

Another popular blog is by Hongkiat.com, a technology and design site, which has approximately 161,000 followers. Hongkiat.com views brainstorming as an information extraction process from a person's brain. It uses the definition from the Yale school of thought that brainstorming is a process through which a person can generate many ideas to solve a problem. The site offers information on techniques such as mind mapping, "brain dumping" ideas on a piece of paper, collaborating with one more friend to come up with more ideas, group brainstorming sessions, setting a time limit and asking relevant questions to get focused ideas. These ideas represent a fusion of the Yale school of thought and Alex Osborn's ideas about brainstorming in group sessions.

CoSchedule, a marketing company, has a blog with 60,000 followers. In one of its blog posts, it addresses the subject of brainstorming. The author defines the process of brainstorming as "harnessing the power of thinking outside the box to solve that impossible problem." The writer, Julie Nedlinger, who is a professional writer for the company suggests four brainstorming techniques including associative brainstorming techniques like mind maps and word associations, writing down pros and cons, asking "what if" questions, and forcing limitations on the thinking process to generate focused ideas. The suggested techniques of Julie Nedlinger could cater to both individual brainstorming and group brainstorming sessions.

### **Brainstorming Today and Some Popular Techniques**

The analysis of the concept of brainstorming from the blog posts above confirms the views of Jeffrey Phillips, the author of *Relentless Innovation* that brainstorming was earlier synonymous with the Creative Problem Solving technique, but now in practice, it is no longer a unitary concept for idea generation. However, history reveals that innovators and creativity thinkers have been inventing tools and techniques to enhance the outcome of brainstorming sessions since the introduction of the brainstorming process. The oldest technique used in collaboration with brainstorming dates back to 1953-1957 when Don Philips, President of Hillsdale College in Michigan created a system called "Discussion 66" or "Philips 66". In this technique, groups of six people had a brainstorming session for a total of six minutes where the problem at hand was tackled. This method generated some surprising innovations at the time. Other popular techniques created to aid in the brainstorming process include the *Six Thinking Hats* brainstorming technique by Edward de Bono in 1970, the *SCAMPER* technique by Bob Eberle in 1996, and *Mind Mapping* by Tony Buzan in 1996.

## Conclusion

After tracing the history of brainstorming to its origin in 1953 and evaluating the process of its evolution and current usage, the following conclusions can be made. Firstly, though by 1958 the brainstorming process was used by eight out of ten of American's largest corporations, it is hard to tell whether the process of brainstorming was modified by its users and how far it deviated from Osborn's model. Secondly, the Yale study played a significant role in how brainstorming was perceived by academia and people who had been exposed to the conclusions of the study. Prior to that, group brainstorming was celebrated due to its successful use, after the Yale study, the school of thought that individual brainstorming was more productive than group brainstorming was formalized. Thirdly, through the analysis of the examples of the usage of brainstorming by Microsoft and NeXT, it was seen that though the companies claimed to use brainstorming, the meaning of brainstorming varied from Osborn's original definition of the process and reflected elements of the Yale school of thought. Furthermore, the convergence of the Yale school of thought and Osborn's original design of brainstorming can be seen in popular blog posts which have likely shaped people's thinking about brainstorming thus contributing to misconceptions about the meaning of brainstorming as intended by Alex Osborn. Lastly, it can be said that IDEO, one of the most popular organizations for innovation culture has remained fairly true to Alex Osborn's brainstorming process. The success of IDEO tells a similar tale as that of BBDO. Therefore, though brainstorming has come to mean many things to many people, there is a possibility that Alex Osborn's model of brainstorming can be revived in mainstream innovation and communication culture.

---

## About the Author

Hanisha Besant earned an M.B.A. degree from the Regent School of Business & Leadership. She is currently a doctoral fellow and Ph.D. in Communications candidate in the Regent University School of Communication and the Arts. Please contact the author at [hanibes@regent.edu](mailto:hanibes@regent.edu).