Creativity on Demand: How to Plan and Execute Successful Innovation Workshops

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Abstract—Creativity workshops are a common way of involving employees and other stakeholders in innovative endeavors. However, not much is known about how to successfully plan and execute such innovation workshops, especially for people with no specific expertise in this field. This paper introduces a creativity workshop setup, which can serve as a blueprint for different kinds of workshops where the creation of novel ideas is the goal. In order to achieve this, a basic distinction of creativity techniques is provided, as well as a structured overview of a creativity workshop implementation structure and time plan. The paper closes by identifying typical mental barriers for decision makers that should be taken into consideration when planning such workshops.

Key words: Creativity, creativity workshops, creativity techniques, creative behavior, organizational creativity, innovation workshops

INTRODUCTION

RESEARCH and Development (R&D) departments are usually staffed with engineers, industrial engineers and product designers. In these environments, it is not only important to build prototypes or test new materials; it is also a key task to come up with radically new product ideas. In order to generate such ideas, structured approaches like creativity workshops and related creativity techniques can be very useful tools. But also for product improvements or very challenging technical problems, methods like TRIZ—the Theory of Inventive Problem Solving—can foster creative thinking and the development of new problem solutions (see [Altshuller, 1999], for further details). Hence, there is also a need for creativity in a technology management environment as an important organizational requirement for innovation.

Since Theresa Amabiles' seminal work in the early 1980's, much has been written about organizational creativity and how to organize creative processes within companies. However, only little is known about the planning and execution of creativity workshops in a practical context, e.g., within companies. This is surprising, because every company needs such workshops to stimulate new ideas. They also should not only take place in departments like New Product Development or Marketing; even R&D Management or Accounting departments need structured creative input from employees, but also from external collaborators. External stakeholders usually participate in such workshops, e.g., as Lead Users. One explanation for the lack of practical guidelines might be the fact that research on such workshops takes mainly place in the area of psychology. Thus, the results of these studies are usually published in psychological journals. Business researchers mainly focus on the organizational level, where individual success factors are not as much in the focus as the process of conducting creativity workshops.

This paper provides an overview of key insights on how to run a successful creativity workshop, as well as critical success factors that need to be considered. In addition, important mental barriers are identified which require top management attention. This paper is based on a literature review of creativity techniques and creativity workshops on the one hand and on the other hand on more than ten years of experience in planning and conducting creativity workshops in technical environments.

The outline of this paper is as follows: First, a brief overview of the basics of creativity workshops and creativity techniques is given. An approach on how to plan an ideal creativity workshop is then presented. The paper closes with recommendations for the execution of such workshops and how to address key mental barriers.

CREATIVITY TECHNIQUES AND THEIR USE IN WORKSHOPS

Many researchers, especially from psychology, have published papers and books on creativity techniques. One of the first ones was Osborne with his take on brainstorming; many others followed in the subsequent years focusing on different areas. The aim of this overview is to ensure a basic understanding of creativity techniques.

The first group includes techniques like Brainstorming or Mind-Mapping. They rely on free association, which makes them easy to use without need for professional training. However, there are also several limitations, such as generally low creativity levels and difficulties in defining appropriate group set-ups. These limitations are especially prevalent in larger group settings that seek to include as many participants as possible.

The Walt-Disney-Method or the so-called "Six thinking hats" belongs to

the group of structured association. This entails that the creative level of the results is usually higher, but the training possibilities are limited.

The Morphological Box and the Attribute Listing approaches are defined as configuration techniques. This is the third category of possible tools that can be used without specific training. The fourth group consists of confrontation techniques. Examples for these are the Buzzword Analysis or Picture Card Brainwriting. Training is necessary here, but the expected creative results are usually also high. Finally, imagination techniques have the greatest potential for creative results. These include Accompanied Fantasy Journeys or the approach to become the problem itself. However, this requires an experienced moderator and a suitable topic and group so these are rather difficult practices to implement.

Each technique has advantages, but also disadvantages. It is necessary to choose the right timing for each creativity technique in order to achieve the most creative output possible. As mentioned before, some

groups require certain amounts of prior knowledge and experience. An appropriate combination of creativity techniques is important for attaining highly creative outputs. It is for these reasons that creativity workshops are usually prepared and executed by professionals within the firm, or by external moderators. However, interested employees with the right knowledge base can also plan such sessions, maybe with the help of an external moderator for professional support.

CREATIVITY WORKSHOPS

Figure 1 depicts the general structure of creativity meetings and shows the different steps in detail.

The search field analysis, which ultimately leads to the research question, takes up the largest part of the time while preparing a creativity workshop. Even though it sounds simple, this preparation work is usually one of the most challenging parts of the workshop. The search field analysis starts with the definition of a core topic, which needs to be in line with the expected outcome, but is
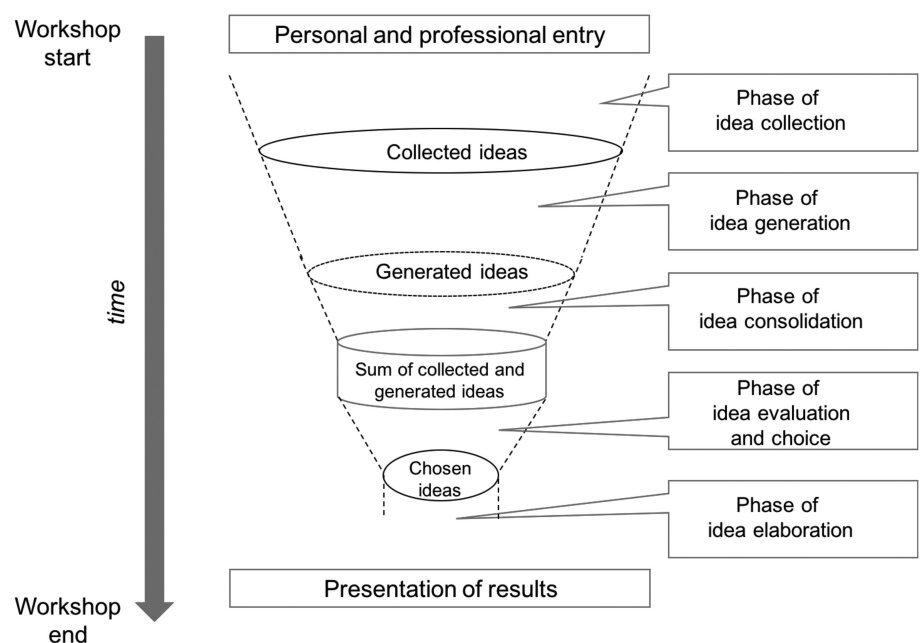

Figure 1.   Overview creativity workshop (translated from [Brem & Brem, 2013], p. 125).

also general enough to allow for a broad range of possible ideas. The main criteria for this stage include the expected level of novelty of the workshop results, as well as time constraints. After the topic is defined, a workshop question has to be derived. This question must be specific and clear, so that it can be written on a flipchart or whiteboard at the workshop. The participants can thus recall the key issue by taking a look at it. As a rule of thumb, the more specific the question, the higher the chance for concrete and directly usable ideas.

Once a topic and the respective question are specified, the group composition has to be determined. In this area it is important to have a homogenous, as well as a heterogeneous setup simultaneously. A team must be homogenous in the sense that members of a group should have some characteristics in common, which makes it easier for them to understand each other and work together. The heterogeneity of a team refers to differences in individual traits of the members of the group (like education or age), so that various angles can be considered. Thus, a workshop group should consist of people with different backgrounds, but with some commonalities.

Research indicates that a group size of five to seven participants is ideal. If there is a larger group of participants, it should be separated into subgroups that meet this criterion.

The duration of the workshop needs to be determined subsequently. A minimum time is two to four hours; the maximum is usually two days. Depending on the group size, more time might be needed for the setup phase, and also for the review after the workshop. The location of the workshop is very important as well, depending on the goal. For example, if the generated ideas need to be

radically innovative, it does not make sense to have the workshop within the usual working environment of the respective company. Present and past successes, failures and ingrained behaviors are likely to negatively influence the level of openness and creativity. So, in case of doubt, an external environment should always have priority.

Technically, all required material, like Flipcharts, Brownpapers and Whiteboards, are to be provided. Electronic devices are useful to document the workshop and its results. Furthermore, the ideas need to be visualized. Thus, in an ideal case, a graphic designer joins the workshop to help the participants visualize their thoughts. Another option is that participants are provided with creative material like Lego (Serious Play) or clay to build a first mock-up[1] or prototype, depending on the topic.

Often neglected, but crucial is the protection of ideas. Workshop material should not be left in the workshop location and boards should always be deleted. Last but not least, participants will only be motivated to contribute again, if their ideas are actually put into practice. It sounds simple, but the (internal or external) commercial use or buy-in of the results of the workshop is usually very difficult to carry out after the workshop is over. However, this is important on a long-term basis to ensure the motivation of future participants.

The creativity workshop agenda and timing are issues of grave importance.

Some insights on how to plan the timing are discussed in the following. The workshop start should include a session in which the participants'

expectations are collected. This helps to prepare them for what is planned for the workshop. After that, the core creativity workshop starts.

Before the idea collection commences, a personal and professional entry are suggested. The personal entry refers to the participants introducing themselves. This can also be done a day prior to the beginning of the workshop, which is especially recommendable for longer workshops. If all participants meet for the first time, a game is a good icebreaker to facilitate the start. A commonly used one is to put an adjective before your name, e.g., "I am the athletic Jim", which usually helps to relax the participants. The professional entry is supposed to direct the attention back to the workshop topic and question(s). A technical presentation about the workshop topic could be given in this context or maybe a presentation by a market expert. This phase is also critical, because this presentation will set the mental picture for the participants. Thus, this can provide a solid foundation if it is well done, but it is also a challenge at the same time: For example, if the goal is a broad collection of ideas, a narrow professional presentation might limit the creative thinking of the participants. This introduction phase then transitions into the idea collection phase.

The basic idea of creativity workshops is to combine different approaches, in order to reach a maximum of novel ideas. Creativity workshops should consist of two distinctive phases: **idea collection** and **idea generation**. The goal of the first phase is to clear the participants' minds so that it is easier for them to elaborate on their first associations. Specific association techniques can be useful. Prominent examples are Brainstorming or Mind-Mapping. After this phase, participants should be encouraged to come up with new

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[1] A mock-up is defined as "a full-sized structural model built to scale chiefly for study, testing, or display", Source: https://www.merriam-webster.com/dictionary/mock-up

(unknown) ideas. Confrontation techniques like the Buzzword Analysis work well in this context. Other methods may also be applied at this stage of the workshop, including more simple techniques like Attribute Listing, or advanced ones like Synectics.

After the idea collection and idea generation is completed, the idea consolidation begins. Usually, this is done by collecting all Flipcharts, Brownpapers and idea capturing material in one place. Afterwards, idea evaluation, prioritization and the selection take place. There are two options to complete this step. One is to involve the participants in the idea consolidation through written voting (e.g., visual voting or colored dots). The second option is to let other people decide upon the realization of ideas. This means that the participants can hand in their individual evaluation, which is then assessed by the workshop organizers. The results are then discussed with the group and a final decision about which ideas to proceed with is made. It is also possible to combine both methods in a hybrid approach, where the ideas are preselected by the participants, categorized and then decided upon by a decision group. Such a group usually consists of people who are not operatively involved in the workshop, but are responsible for its funding. Usually they belong to the company's upper management level, like e.g., the Head of R&D Management.

Once the ideas are chosen, there should also be a possibility for conceptualizing them further, also called idea elaboration. This helps participants to identify themselves with their idea, and also to go more into detail with it, which makes them more likely to develop a feeling of success. Support from a designer or other personnel in creating a mock-up is appreciated.

Finally, the ideas, together with the respective prototypes, should be presented at least to the other participants, but also the decision group. This step evokes a higher level of satisfaction of the participants. The workshop should close with a feedback round, which should also include an evaluation of the expectations from the beginning of the workshop.

Following these introduced guidelines will make sure that workshops are aligned with the state-of-the-art knowledge on creativity workshops in theory and practice. However, it is important to critically reflect, if and how specific steps need to be adapted in the context of the respective company.

Finally, there are general cultural aspects which need to be taken into consideration to foster creative thinking. Such aspects are summarized in key mental barriers, which are introduced in the following.

MENTAL BARRIERS FOR CREATIVITY AND CREATIVE THINKING

Decision makers have several typical mental barriers to overcome when creativity workshops are concerned. The main barriers include:

1) *Creativity Workshops Have to Take Place in-House*
In most cases, this is not recommended. Thinking in new ways is constrained, especially for radically new products, if the workshops take place where previous success happened. This means that the participants' thinking could be limited or drawn to the things that caused the success last time. In many meeting rooms, there will probably also be visual reminders of the current product portfolio. An outside location has the possibility to inspire employees to develop new thoughts,

because a change of environment can be like a breath of fresh air for some.

2) *Creativity Workshops do not Need External Moderators*
This situation is especially true when it comes to quick and short idea sessions. However, a professional moderator is recommended if the workshop is longer. As a rule of thumb, this includes workshops which are scheduled for more than two hours. External moderators may be more respected by the participants than an internal person, because the participants will be more likely to consider him to be an unbiased facilitator. The external moderator will also have more experience concerning the techniques that should be used, and how the participants should be integrated, while being organizationally unbiased.

3) *Creativity Only Works With Very Creative People*
There is a common misconception that only very creative people can derive creative ideas. By nature, creativity is pervasive. For a creativity workshop, the group composition is therefore key. Groups with too many highly creative people will not work. The same goes for groups that consist mainly of individuals that do not consider themselves as very creative. In addition, even very technical workshops can utilize creativity with structured methods like the earlier mentioned TRIZ.

4) *Creativity Workshops Can't Produce Ideas by Default*
If the workshop is well planned and executed, new ideas will be the result. The workshop's evaluation greatly depends on the goals and expectations that are set, and is subjective. However, using good and appropriate methods leads to many ideas; usually several of them are also useful.

5) *Specific Employees Don't Want to be Creative*

This is also a common and inaccurate perception. Many employees don't want to participate in creativity workshops. This is true. But in most cases, it is because of earlier, negative experience. They could be won over with a strategic approach at creativity workshops in companies. For instance, if potential participants are informed about the planned topic, location and expectations in due time before the workshop, their motivation is usually higher than if they are in doubt to what they should expect. Also, it helps once the participants know what they can prepare to contribute to the success of workshops.

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