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Use of the brainstorm method in the innovation laboratory (i-lab)

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Abstract

The condition for the success of the sessions carried out in i-Lab (innovation laboratory) is to create free and unfettered atmosphere, inspiring to invent the greatest number of ideas. For this purpose, innovation laboratory uses brainstorming method of collaborative search for solutions. Each participant of the session can anonymously report a lot of the strangest ideas that are not immediately evaluated by others. Deferred evaluation is to encourage everyone to freely and unconventional thinking.

Key words: brainstorming method, creativity, laboratory of innovation.

General Description of a brainstorm method used in i-lab sessions

The basic component of the session carried out in the laboratory of innovation i-Lab2 is brainstorming method[1]. The essence of this method is that the phase of submission of ideas is separated from the phase of their evaluation. This results in a more free and daring ideas.

Postponement of evaluation of solutions is purposeful and aims to encourage participants to put forward solutions in line with the principle of "first thought is the best". Each participant can submit the most bold and daring ideas, even if they were unreal, unusual, strange. Any idea can be an inspiration to the next, created on the basis of associations, additions or opposites. It is assumed that a large number of ideas increases the chance of the appearance of valuable solutions. The more ideas are generated, the greater the probability of hitting on the original and valuable idea. This objective serves the following principles:

1. It should be administered as concise ideas of solutions that come to mind each of participant, without any restrictions.
2. Do not express any critical comments on the given ideas; evaluation is deposited later.
3. If idea is more unusual, original, and even the fanciful, it is better.

4. Do not be limited only to own ideas, but strive to develop, modify, or en-richment combine ideas that have already been reported.
5. Every idea is recorded without saving by; ideas are the property of the whole team [Dobrołowicz 1995: 195].

Implementation of the session in the laboratory of innovation (i-Lab2)

The session in the laboratory of innovation is begun by moderator by short lecture or talk. The purpose of this introduction is to explain the problem that participants have to solve. Then moderator writes the problem on the board, to make it visible all times for all participants. VirtualBrainstorm software (VBS) created by the Institute for Sustainable Technologies – National Research Institute in Radom allows to perform a session using the method of brainstorming (figure 1).

Before starting work with the use of software VBS moderator gives rules to keep in mind during the session. Here they are:
− every idea should be reported, even unrealistic, ridiculous;
− there is important the number, not the quality of ideas;
− submitted (typed) ideas can not be evaluated by anyone;
− each participant of the session, has the right to submit as many ideas as he wants;
− all ideas are anonymous;
− submitted ideas can be changed, modified, developed.

Figure 1. The login page to the VBA system

After explaining the rules of work force in the i-Lab, each participant of the session logs on a separate computer station [Compare with Koziorowska, Romerowicz-Misielak 2014: 478]. All positions are arranged in such a way that they can not see what the other person writes. None of the participants did not know the author of a particular solution. This gives better results associated with the development of unrestricted creative thinking.

Initially, the ideas submitted by the participants of the session are trivial and not very interesting. Over time participants under the influence of mutual intellectual stimulations report more original ideas.

A large number of possible ideas is important, because with the increase in the amount of ideas increases the probability of finding the best one. During the session, in addition to submit the own ideas participants can also improve already reported ideas, to develop existing and combine some of them in order to obtain new and better solutions.

After some time, there is a gradual depletion of the group invention. In order to stimulate the participants, the moderator can enter any idea or ask indicative questions (using special checklists), encouraging members to submit a combination of previously reported ideas or to develop them.

To stimulate creative activity there can be use the following questions:
- the essence – Which is unsatisfactory in its current state? How can you improve, without taking into account the reality (feasibility)?
- different uses – What are the other applications of the proposed facility?
- adoption – What is similar to a given object? What other ideas he suggests?
- modification – What happens if you change the order, purpose, color, shape?
- increase – What can you add, increase, strengthen?
- decreases – What can be subtracted, reduce, skip?
- regrouping – Change the system, the order rate?
- substitution – How to replace it? What to fulfill that function? Who will fulfill this function?
- reversal – Change something opposite? Change the plus to minus? Overturn?
- Connection – Connect the parts, assemblies, ideas? [Marszałek 1999: 20].

The step of writing ideas takes about 30 minutes. Its end sets clear decrease in the number of reported ideas or decision moderator that gathered material enough to solve the problem.

Only after this stage, the participants evaluate different ideas according to the previously developed criteria and choose the best solution for a given problem. Evaluation of ideas is anonymous. Most often session participants evaluate ideas with the disposal of 10 points, which may grant to the best solution, or split a few points for some ideas. Upon completion of this stage, participants can see the report (figure 2).

The program automatically generates four reports:
− ranking by ideas (according to the number of points scored)
− ranking by groups of ideas (a group of ideas according to the number of points scored)
− all the ideas (without taking into account the results of scoring)
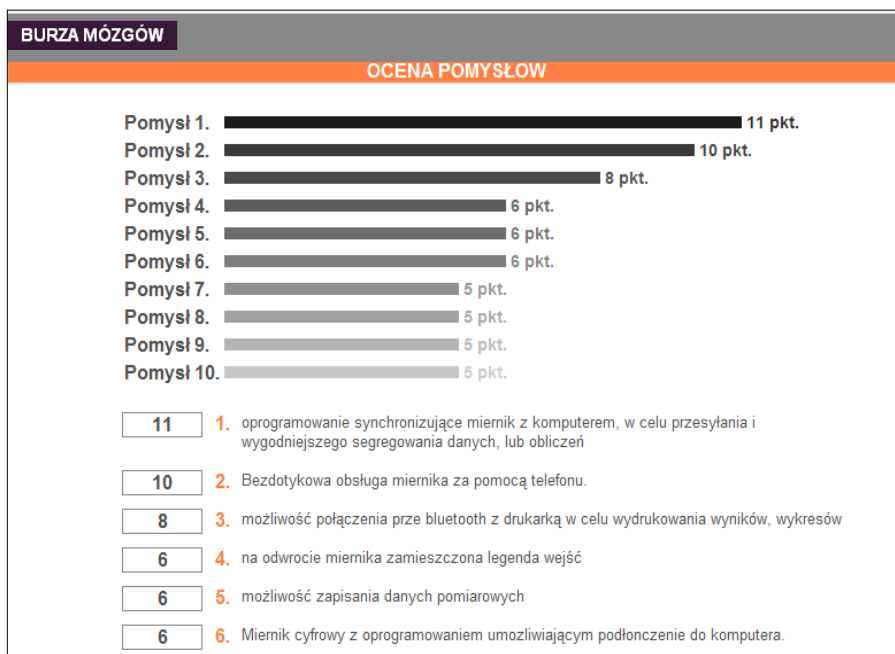− ideas in groups (without taking into account the results of scoring).

Figure 2. Example of the report – ranking by ideas

The best idea or two of the best ideas are in the rest of the course detailing and developing by several groups [Compare with Długosz 2014a: 87–88]. This work stage is performed in the second room. Group members sit comfortably at a table and continue analyzing the best solutions. Working time of this part takes about 45–60 minutes. After this time the leaders of each groups present results of their work. The whole session is summarized by the moderator.

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