Open Science Gallery – Successful Group Interactions Across Transdisciplinary Boundaries

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Abstract: Open Science Gallery (OSG) is an interaction method which has emerged from our experience in supporting team building processes among transdisciplinary and geographically distributed researchers at our higher education institution. The OSG is intended to be applied in f2f meetings, aiming to overcome discipline-related and physical boundaries and to initiate collaboration. To this end, the OSG presents an introductory question (OPEN) which serves participants as a starting point for sharing their personal expertise (SCIENCE) within a safe environment (GALLERY). The OSG is self-organising and spontaneous which means that no advance preparation for participants and little facilitation is required.
In the first part of this paper, we will describe the need for an approach which focuses on the specific challenge of today's organisations: if they want to gain a competitive edge on the market, organisations need to find ways to actively connect and incorporate the tacit knowledge of employees and unique expertise into the business.
In the second part, we will introduce the theoretical framework of the OSG, its core elements and some single implementation steps. Furthermore, we present the pilot and its evaluation results, critically discussing the risks and benefits of our approach. We will close with some of the lessons learned and an outlook for a future redesign.

Keywords: transdisciplinary groups, self-organising interactive approach, team building, design thinking, collaborative creativity

1. The challenge

A challenge for today's organisations is to stay competitive on a dynamic market with its rapidly changing requirements. Whether an organisation is able to innovate and therefore gain a competitive advantage depends largely on whether it succeeds in managing tacit knowledge resources (Martins & Martins 2011). However, this knowledge cannot easily be verbalised, as employees bring this to an organisation in the form of personal expertise, beliefs and attitudes, networks and experience. Thus, finding ways to connect and make this unique knowledge available across individuals, units and teams becomes a core task of organisations.

We also face this task in our higher education institution with its knowledge-intensive processes in learning, teaching and research. Our knowledge carriers (especially in research and teaching) are

- often geographically distributed (over different language areas of Switzerland)
- very heterogeneous with respect to their research and teaching topics and their way of thinking and working.

For our researchers, we therefore introduced an annual f2f workshop, overcoming the physical distance as well as discipline-related boundaries in order to bring them and their expertise together.

Nevertheless, previous editions of this workshop suggested that its design was not fully able to satisfy the heterogeneous and often *contradictory* expectations of participants. Initiated by this demand for a flexible format, we started to develop the Open Science Gallery (OSG), an interactive approach aiming at strengthening collaboration among diverse knowledge workers.

2. Our solution: open science gallery (OSG)

The OSG is a self-organising team building approach for designing and conducting group interactions across disciplines, providing participants with an open space for initiating shared, interest-based initiatives.

We describe the terminology of the OSG and its methodological framework, procedure and pilot application below.

2.1 Terminology

The term OSG has a specific terminology, conveying the essence of our method in three words:

- *OPEN* means to provide space for creativity, inspiration and innovation. There is no right or wrong, as long as two people (or more) share interest in an idea.
- *SCIENCE* refers to the content. Each participant is treated as expert and invited to share his or her expertise with colleagues from other disciplines.
- *GALLERY* indicates the spatial setting. A bright room and pin-boards as catalysers to facilitate social interaction. Based on the definition of the gallery as "a covered passageway" (Dictionary.com), the term also indicates a *protected* area for ideas.

2.2 Methodological framework

The process of "Design Thinking" and the insight proposed by Jef Staes with his "No Sheeping" invocation and "Red Monkey Innovation Management" approach constitute the methodological framework of the OSG.

Design thinking

Design Thinking is a human-centred, creative, iterative and practical approach to innovation (see Brown 2008, p.8). The methodology defines three interwoven stages:

- *inspiration*: experiencing a problem which *needs* to be solved
- *ideation*: generating and testing ideas for solutions
- *implementation*: selecting the best solution and implementing it (see Brown, 2009. p. 3)

We applied this process to the OSG: based on our previous workshop experiences, we started to analyse the *needs* of our researchers which turned out to be heterogeneous: some wanted the workshop to widen their network, others to strengthen existing collaborations or else to secure a space to work on ideas they usually have no time for. With this in mind, we started *drafting* and *prototyping* the new interaction method. After its *implementation* in autumn 2014, we are now back at the ideation phase, planning the redesign.

No sheeping and red monkey innovation management

Jef Staes (2014) distinguishes between 2D organisations as organisations of the past and 3D organisations as organisations of the future. In 2D organisations, we behave like sheep since we are still engaged in education and hiring based on diplomas as proof of our ability to study and work *without* passion and talent. But we need this passion and talent to get into the groove of learning and working! Otherwise we end up as sheep, just blindly following our job descriptions.

Thus, in 3D organisations the sheep are substituted by red monkeys, i.e. those pioneers and creators who use their passion and talent to create innovation.

Following Staes' invitation, the OSG aims to support this 3D thinking by drawing on individual expertise.

2.3 The procedure

In this chapter we describe how to run an OSG:

1. *Introducing an open question*: an OSG starts with some explanations about the format and a predefined introductory question. This question should simply help participants to start conversations. In 2014 we asked them: If you think about your skills and interests, to what project idea would you apply them?

2. *Creating personal interest cards*: Afterwards, each participant receives 3 business cards (including his/her picture, name and unit) to complete with keywords expressing his/her personal interests and competencies.
3. *Creating posters*: Once the cards have been completed, participants are invited to create a poster using their input about the introductory question (not mandatory!). These can be ideas for projects, discussions or anything else. To do this, they choose a free pin board (alone or together with colleagues).
4. *Visiting posters*: The format doesn't distinguish between the poster *owner* and *visitor*: All participants visit the posters and they pin one of their business cards to each poster they are interested in (Figure 1).

Figure 1: Poster visit (2014).

5. *Building groups*: The group building is self-organised. Participants join the poster they would like to work on. If the owner is absent, participants return during a second slot.
6. *Working in groups*: Once the interest groups have been established, they start working on their idea. It is up to the participants to change groups after 20 minutes.
7. *Visualising outcomes*: Participants can use a huge paper wall (1.50x3 metres) to write down their conclusions during the group work.
8. *Presenting outcomes*: At the end of the workshop, all groups briefly present their results and the next steps in-front of the paper wall (Figure 2).

Figure 2: Presentation in front of the poster wall (2014).

The OSG differs from traditional Open Space formats (Owen 2008). While Open Space Technology is focused on a specific thematic purpose, with OSG the purpose is to build teams around *new* ideas; the themes of these ideas are free and the introductory question merely serves to initiate discussions. Therewith, the OSG is aligned with Nonaka's et al. (2000) model of dynamic knowledge creation: the OSG aims to create new knowledge by bringing its participants in a socialising space ("ba") together. Here they are invited to share their skills and passions and to go into a deeper dialogue to transcend tacit and explicit knowledge.

Furthermore, the OSG creates a safe environment. This is particularly important for introverted people and, according to Segar (2009), this is the biggest weakness of Open Space. However, the OSG addresses this weakness

by giving all participants the space (and peace) to tell and share their ideas. And such, most participants in our pilot (see 2.4) made use of the option to create a poster.

2.4 The prototyping

We applied the OSG to the 5th edition of our scientific workshop which took place on October 24 2014 in Brig. 32 participants from 11 units of the Swiss Distance University of Applied Sciences and its parent institution SUPSI (Scuola universitaria professionale della Svizzera italiana) attended the meeting which opened with a keynote speech. 22 posters were created, 10 groups established and 4 project ideas developed (2 of which were submitted for grant applications while the other two are still in progress).

Generally, participants liked the OSG due to its practical orientation. Further benefits and potential risks, which were included in the prototyping and need to be considered in the redesign, are listed below.

Benefits
- Participants don't need any advance preparation. All activities can be done *ad hoc*.
- The format's openness provides participants with room for creativity and new ideas.
- The interest-based approach supports ongoing collaboration.
- The initiatives launched in the OSG largely ended with concrete outcomes (like project applications).
- Finally, the poster wall is a very tangible way of making outcomes visible to everyone.

Risks
- The approach is somewhat unpredictable since the ideas of the participants as well as the group building are not predefined.
- Thus, the OSG might seem chaotic and unstructured. However, we experienced that participants handle this lack of structure rather well. Most of them even find it inspiring.
- Appropriate time management is critical. The facilitators have to find the right balance between self-organised and guided phases.
- For typical 2D employees (see 2.2), it may be a challenge to get creative. Thus, those participants might feel (partially) lost.

3. Lessons learned and outlook

OSG is an approach to initiate transdisciplinary group interaction. This is of particular relevance for an organisation to connect the unique expertise and experience of their employees. In this section, we describe which lessons we learned and which tasks need to be completed in the future.

First, we found that participants of the OSG loved to interact and to create ideas. They appreciate the method's openness by working on ideas which do not usually form part of their daily activities. However, people should not feel abandoned. Hence, the facilitators have to find the right balance between free space and guidance. This is a key requirement for enabling social encounter.

Furthermore, the paper wall turned out to be an appreciated way of involving the plenum in the outcomes of the group works. People liked this approach of having a shared space.

We also learned from our pilot that the OSG process needs some improvements. Participants felt partially confused and unsafe about what they should do as next. Hence, a detailed agenda displayed on a projector and careful facilitation could help to bridge this weak point. In particular, the group building process must be simplified by making participants familiar with the concept of self-organisation.

Finally, we will aim to better integrate introvert as well as non-creative participants in future. It turned out that giving participants a space for their ideas wasn't enough. Participants who have difficulty being outgoing and creative need a more sensitive approach.

We plan to apply and further develop the current version of our model to different meetings, events and workshops within our organisation.

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