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Best Practices for Meetings

1. Background

Since 2005, NESCent has hosted over 200 working group and catalysis meetings. This document stems from our observations of the characteristics that lead to productive groups. In addition, NESCent staff members are available to provide advice as facilitators (certified through MG Rush's Facilitative Leadership Training). Group leaders may also wish to examine the following books that provide some additional guidance and have influenced this document.

- *The Secrets of Facilitation* by Michael Wilkinson
- *Mining Group Gold* by Thomas Kayser
- *The Skilled Facilitator* by Roger Schwarz
- *Visual Meetings* by David Sibbet

2. Your Role as Leader

Groups make higher quality decisions and are more productive than the smartest person in a group. The reason for this is that groups create more options and encompass a greater breadth of diversity than any single person. Groups can recall and remember more than individuals and are capable of using the input of individuals to create an integrative and novel product.

Your role as leader is to leverage this expertise and encourage a diversity of ideas. You will need to create an environment that is conducive to productivity and breakthrough by establishing a neutral environment where ideas can be shared. As a leader, you will also want to motivate, guide, question, build bridges, be insightful, make peace, praise, and ultimately be a taskmaster.

Successful working groups tend to have firm, organized, but flexible leadership. Ideally, the leader lets new ideas emerge and be explored, while keeping the group focused on the project goals and deliverables and on making progress towards the goals. Remember that you can achieve more effective results when solutions are created, understood, and accepted by the group.

Planning a meeting is not a light task. On average you should allow for 2-hours of prep time for every 1-hour of meeting time. You should be the most prepared and informed member of the group.

3. Meeting Length

Making real progress typically requires at least three full days of meeting time. This is particularly true for the first meeting. Arrival and departure days tend to be less productive due to early and late arrivals of participants as well as additional logistical needs.

4. The Group Life Cycle

In 1965, Tuckman described the development and evolution of groups as a series of stages. The stages he describes are:

1. **Forming:** A stage of orientation, hesitant participation, and search for meaning in the midst of confusion. Groups are looking for the reason they are in the meeting and for social relationships. At NESCent this stage will typically be concluded during the first meeting day.
2. **Storming:** A stage of great energy and creativity but also potential dominance, conflict, and rebelliousness. During this stage the group is typically focused on differences in perspectives.
3. **Norming:** Expression of opinions and development of group cohesion. Participants will begin to feel more comfortable about expressing opinions and will begin to recognize commonality. Ideally this stage should be reached before the conclusion of the first meeting in order to encourage group advancement during the interim between meetings.
4. **Performing:** Emergence of solutions and the formation of the team. At NESCent, this may mean division of labor and formation of sub-groups, or more simply the explicit assignment of interim tasks and goals.

You as a leader should recognize these stages and help move the group forward through its development. Sometimes groups show a tendency to regress to a previous state; this is normal, and a skillful leader can help prevent this and maintain forward momentum by being intellectually prepared, by focusing on building bridges, by hearing all voices and being liberal with praise, and by recognizing progress through these stages.

5. Agenda

Remember that all agendas have three components: a beginning, a middle, and end. Meetings can fail for no other reason than not having a clear beginning and end. As you design your agenda you should include introductions that clearly articulate the purpose and deliverables of the meeting. Remember that the beginning sets the tone, establishes the groups and their roles, sets boundaries, and gives an overview of the overall agenda for the meeting.

The end is just as important as the beginning. Most importantly it defines closure and explicitly lays out next steps and responsibilities. No one should leave a meeting without a clear understanding of his or her tasks/responsibilities in the months to come. Who will do what when?

Remember to have a clear agenda (and provide it to the participants) for the meeting in advance. Through structure you will gain flexibility. You should concentrate on the objectives and tasks you need to accomplish by the end of the meeting and by the end of every day. You should think of these as steps that enable you to organize known information, identify questions, and produce deliverables. You by necessity need to concern yourself with specific times or tasks to be completed by the end of the day. However, do not concern participants with specific times, e.g. *set topics of review paper 9:00-11:00am*. Specific times can create false expectations and

participants become more focused on time than deliverables. Rather think of the agenda as a list of terms that will be worked through. This list should be clear to participants, e.g. given in a handout or posted on the board. You should have tentative idea of how long each of these tasks should take. But you want to allow specific agenda items to go longer if they are productive or shorter if they are not.

As the meeting proceeds, stay on task. Avoid straying to other topics, out of scope, no matter how informative the topic may be or how much it may interest you or the group. You may wish to record these off-topic ideas on a pair of white boards or writing pads to capture ideas. One, call it ACORNS, is for great ideas the group doesn't want to lose but that may be off topic and may ultimately not be addressed by the group. The other, call it PARKING LOT, is for ideas on topic that will need to be addressed later.

Frequent breaks are vital. A 10-minute break for participants can be used to free a discussion when it is deadlocked, rejuvenate when group motivation and participation is low, demark a transition from one agenda item to another, etc. We advise against setting up specific break times but rather allow them to happen naturally (and often!). Breaks should occur at no longer than 90-minute intervals. Be specific about the length of the break and keep to it!

Research has shown that there are standard times when energy is low among participants

- Mid morning 10:30-11:00 am (minor low time)
- Just after lunch 1:30-2:00 pm (major low time)
- Midafternoon 3:00-3:30 pm (moderate low time)

You want to plan activities that involve high rates of interaction during these low energy times, to rejuvenate and motivate. At all cost, avoid presentations, long monologues, reading, or individually assigned exercises during these times

Keep in mind that group productivity quickly diminishes after 8-9 hours. Do not expect major gains to be made late in an 11-hour day. Do not hesitate to break a workshop for the day if the group is sluggish or discussion is becoming contentious, even if they wish to continue. Explain that, when people are burnt out, no progress occurs.

Pre-meeting activities are beneficial to both developing an agenda and ensuring high productivity when participants come together at NESCent. PI's should provide useful background reading and promote pre-meeting discussion. Ideally this would happen online through the NESCent provided wiki space. You may choose also to have pre-meeting assignments (e.g. bring a list of top 5 unanswered questions on the topic).

6. Meeting Purpose

A NESCent meeting is not a workshop or a symposium: It's a group that is gathered to work together, often for a number of years, to make real progress on a specific project. At the beginning of the meeting, the leader should remind the participants what the purpose and objectives of the group are. *The purpose of this working group is...so that...* Ideally, these would be posted in large print on a sheet of paper attached to the wall during the entirety of the meeting. For working groups, both the purpose of the group and the individual meeting should be discussed at the beginning of every meeting.

It might also be helpful to define the scope of the meeting(s), i.e. what is included or excluded. For example, the group may decide that the project will only include invertebrates or focus only on morphological data. Within the first day of the meeting, the group should delineate the scope.

This will prove invaluable later as deliverables are defined. It will prevent misunderstandings and demarcate what could otherwise be an insurmountable task.

7. Deliverables

The purpose of every meeting is deliverables, i.e. products, such as software, databases, curriculum materials, manuscripts, and submitted grants. Remind participants what the objectives and deliverables are at the beginning of every meeting. Again, this can be posted in large print on a sheet of paper attached to the wall during the entire meeting. Your role as the group leader will be to continuously remind and guide participants toward these deliverables.

In some instances the general deliverables are known, e.g. a review paper, but the specifics are not, e.g. what the review will include. In other cases, e.g. catalysis meetings, the deliverables may not be completely determined at the start of the meeting. It is important to form a consensus on the deliverables early in the meeting. This will allow the group to focus quickly on the tasks at hand. In these instances it is wise to provide structured brainstorming as opposed to free flow conversation.

8. Ground Rules

A list of ground rules posted in the meeting space and discussed during the introduction during the first day is vital. Below is set of often used ground rules that you can suggest to the group and get agreement on.

1. Be here now (i.e. turn off cell phones and limit computer use to current project)
2. Silence or absence implies consensus
3. Make your thinking visible, i.e. share all relevant information
4. Be hard on facts, soft on people
5. Be curious about different perspectives and understand disagreement
6. Challenge assumptions
7. One conversation at a time
8. No big egos or war stories
9. Bring a problem, bring a solution

Another favorite ground rule, inspired by Wilkinson in *The Secrets of Facilitation* is 'Always Look Up'. Discussion about what won't work, i.e. 'looking down', is often a waste of the collective time, preventing looking up and moving forward. Agree when a recommendation is made that participants can only say two things, 1. what they like about it and 2. how to make it better.

9. Introductions and Icebreakers

Brief introductions of each person and their research perspective on the goals of the group are useful, but strongly resist the (natural) tendency for people to give talks about their research. If needed, select a subset of participants to give presentations on topics focused on the goals of the project: needed background, available data resources and tools, etc. Keep in mind that nearly everyone in the group is simultaneously an expert in some issues and a neophyte in other issues, and pitch the presentations appropriately. The talks should also avoid judgment but take a neutral position on the research out there, i.e. presenting both sides. Gaps in knowledge should be clearly identified.

If it seems extremely important for multiple participants to present their research, keep presentations short (think <10 mins.). We also advise that you allow ample time for discussion and feedback. These discussion times should be structured to promote active listening during talks. For example, develop a list of questions you want participants to think about as the talk is delivered. Use these to guide discussion afterward. The leader should recognize and point out to the group the differences in understanding as these may be areas for novel advancement or conversely represent areas that may impede a project. Remember we often assume that after a speaker delivers information the group has all heard the same thing and that our interpretations will be similar. This is not always the case. Speakers should strive to provide a clear list of take-aways, implications, and gaps. One particular strategy that has proved successful is having participants deliver 3-minute flash talks without slides. Fifteen minutes of open discussion after every five flash talks allows for energy and momentum to stay high through the presentations and moves from passive to active participation.

Icebreakers may prove profitable in large groups or in groups whose participants have not interacted previously. Remember the point of the icebreaker is to relieve tension or lighten a formal atmosphere. Both of these can impede open and energetic conversation, essentials to synthesis. The goal should be to get participants to introduce themselves beyond name and title (and research). Out of the box questions during icebreakers have been shown to increase group creativity in workshops. Consider questions like: *If you were a room in a house, which room are you and why? What was your strangest paying job or chore? What would you bring on a desert island?* An excellent source of additional exercises and facilitator's tools can be found in *Games Trainers Play* by Edward Scannell.

10. Breakout Groups

With larger groups, breakout groups allow the team to capture more information in less time. Alternating between large group and subgroup meetings provides a breakup of the monotony of the meeting, increases productivity, and forms social networks within your group.

If the task at hand is a brainstorming exercise, have clear assignments for who will go into each group. Avoid simply dividing the room by half because people will inevitably seat themselves near to those they know through prior collaboration or because they occupy the same discipline.

If the task at hand is to divide and conquer the group's objectives, identify clear objectives within the larger project goal so that interconnected subsets of people can work on these somewhat independently (but ensure communication among subgroups). Usually these subgroups emerge naturally, but you may need to guide this.

11. Asking the Right Questions

One of the many ways you will guide the group toward the deliverables is by questioning them and through the subsequent discussion. Remember that the ability of the group to respond to a question is significantly affected by the quality of the question the leader asks.

How would you stop world hunger?

How can we prepare populations for drought?

How can we ensure transport mechanisms are in place to quickly and effectively deliver food?

Clearly, the first of these is the most difficult question to address. A powerful brain storming exercise is to ask what questions would need to be addressed before we could tackle this larger question. You can see that this leads to a powerful brainstorming session that reduces a complex question to manageable parts. Your most powerful tool is asking the right question.

Great starting questions draw a vivid image of the answers. Participants will see the answers and begin to respond immediately. Start with an image building phrase like “Think about”, “Imagine”, “If”, “Consider”. For example, *Imagine you own a shipping company, what incentives would you need to volunteer transporting food stocks?* In addition, when floating ideas ask participants to identify its benefits.

Keep in mind the differences in question types as well.

- Could - *What could be done?* Implies no limitations or restrictions, use to generate maximum ideas
- Should - *What should be done?* Implies a responsibility
- Must - *What must be done?* Implies group should identify only essential items
- Will - *What will we do?* Implies inclusion of action and willingness to commit to it

A leader can also guide the group’s flow by asking the right questions. For example,

- Probing: Why is this important?
- Clarification: It sounds like what you are saying is...is that right?
- Indirect probing: Is this important because...?
- Leading and seeking other solutions: Are there solutions in the area of...?
- Redirecting from a nonrelevant point: That’s a good point. Can we put that on the issues list so we won’t forget it, and then get back to...?
- Prompt to keep group moving: We have covered a,b,c...what else might we...?

12. Authorship and a Memorandum of Understanding

Issues of authorship should be discussed and a consensus arrived at early in the meeting. In many groups, issues of authorship may never arise but an agreement can go far to prevent future misunderstandings and create a climate of open sharing. Authorship models come in four basic types.

1. All participants are included as authors. First author is the lead of the project and main writer of the paper. First author has sole control to move authors up the authorship line based on input into the paper. Only the individual participants can remove themselves from the authorship line.
2. Authorship is given to those assigned a specific task, i.e. data collection, analysis, writing. Note this requires that tasks are formally assigned and recognized.
3. Authorship is given by the established project lead, eventually the lead author, to those they feel contributed significantly to the manuscript.
4. Breakout groups are formed that concentrate on specific projects/questions. Papers stem from these breakout groups and authorship is limited to participants in the subgroup.

You can feel free to use one of these examples and modify as suits your particular circumstance and the group consensus.

This authorship agreement should be included in a memorandum of understanding (MOU) that would also include data usage agreements, expectation on participation and input, ownership of ideas in the group, etc. Below is a great example of one MOU from a recent working group to

specifically address data sharing concerns. Obviously, this could be expanded on incorporate other issues.

The _____ Working Group is a limited group of Principal Investigators, data collectors, and data analysts (see below for members) collaborating for the purpose of _____. Our primary goals are to (i) _____ (ii) _____, and to produce co-authored publications pertaining to these hypotheses. To conduct the comparative analyses, members of the Working Group will necessarily have access to original, unpublished data from other members of the Working Group. This internal agreement among the participants of the Working Group is intended to facilitate confidence in making these data available for the collaborative goals of the Working Group, and to prevent any misunderstandings among Working Group members or the research groups they represent. Specifically,

1. We agree that we will share these data within the Working Group for the purposes of collaborative analyses agreed upon by the Working Group. Currently we have identified two explicit hypotheses that we wish to test with these data, but we may, as a group, identify others in addition or instead that we wish to pursue together as a Working Group.
2. We agree that we will not distribute, use, cite, or incorporate into individual analyses any unpublished data provided by other members of the Working Group without explicit written consent from the individuals responsible for bringing original data to our collaborative project.
3. We understand that this agreement applies both during the duration of our Working Group project, and for perpetuity beyond the completion of the project as defined above.

An additional product of the Working Group will be a template for data entry of _____ data with accompanying documentation. This template (with its supporting documentation) represents a collaborative intellectual effort among members of the Working Group, and is therefore included in our internal agreement.

Specifically,

1. We agree that we can share this template only with our immediate collaborators and technical consultants as we are developing our respective databases.
2. We will cite it as a product of the Working Group in any of the autonomous publications based on our respective datasets where we make use of the template.

13. Record, Record, Record

You will want to keep notes of everything that occurs in the meeting including decisions, actions assigned, outstanding issues, and obviously relevant exploration and comments on ideas. If not recorded ideas are easily lost. Even the most mundane note now maybe the key for breakthrough later.

We suggest that a note taker be assigned each half-day and cycled through participants. NESCent provides a wiki for you that can hold these notes. We encourage you to actively use this tool, or others. Remember to remind the note takers to write what the participant said, not what they heard. Try to minimize filtering the information. At the end of every agenda item, ask all members to take a few minutes looking over the notes. Have them add missing information or comment on existing. Never delete or edit the information. Again, this information might be relevant later.

13. Remote Participation

Remote participation is a mixed blessing. On the one hand, it provides a greener and healthier alternative for participants that would otherwise have to travel a great distance, experiencing jet lag and exhaustion. It also allows participation from members that might otherwise not be able to attend at all. For some groups, remote participation has been a real boon. On the other hand, the remote participant will not function as a full member of the group. They are limited in their ability to participate in breakouts, they miss the icebreakers and the socializing during meal breaks, and they often have more limited ability to participate in group discussion simply because they can't

be as spontaneous in interjecting comments. All of these things profoundly affect group dynamics and outcomes, especially if the remote participation is not well known to other group members.

Also, it is important to remember that, no matter how good NESCent's technology is for remote participation, the quality of the experience will ultimately be limited by the technology at the remote location – the participant's camera, audio equipment, software, hardware, and connection speed. This can lead to great frustration – dropped lines of communication, poor audio or visual quality, etc. – which can disrupt the meeting. NESCent is usually powerless to help alleviate problems that arise from problems at the remote location.

On the whole we recommend that you encourage group members to travel to NESCent for the meeting, but that you consider remote participation as an option when absolutely necessary. If you do so, you should take into account the deficits of remote participation. Plan extra time for setting up the remote links in the mornings, never assume that what worked yesterday will be fine today, and make explicit accommodations for the aspects of the meeting that the remote participant will miss whenever possible.

14. Group Composition

Observation of groups suggests that the selection and retention of participants is an important part of group productivity. In our guidelines for writing proposals, we emphasized the importance of selecting participants from a mix of career stages including junior and senior faculty, postdoctoral fellows, and students. We also emphasized the importance of diverse disciplinary and methodological perspectives. Below are some additional suggestions for assembling a successful and productive team of researchers.

- Participants should generally remain constant throughout the life of the group. Minimizing turnover will maximize productivity and remove repeated need for introductions and group identity formation, i.e. reverting to the forming phase of the group life cycle.
- Participants should be selected who have availability to both attend meetings and work between them as well as a commitment to the overall success of the group.
- Selection of other leaders (Co-PIs) will benefit the group so as to divide organizational tasks and provide unique leadership perspectives.

15. Contacts

PI's should not hesitate to either the Assistant Director of Science, Craig McClain (cmclain@nescent.org) or the Bioinformatics Project Manager, Karen Cranston (karen.cranston@nescent.org) for assistance and questions. Additionally on request, either can put PI's in contact with PI's of past successful meetings.