Facilitating Interdisciplinary Meetings: A Practical Guide

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OVERVIEW

Facilitators can play an important role in helping socio-environmental research teams achieve equitable collaborations, reach decisions, manage time, keep work flowing, and—at best—seamlessly achieve their goals. Having a facilitator can allow team leaders to focus on the content of the meeting itself and engage with group members in a different way. Facilitation can also help teams address many of the challenges that can emerge throughout the course of collaborative interdisciplinary research, from negotiating diverse priorities and interests, to designing effective and productive meetings, to navigating philosophical differences and power dynamics within a team.[1]

While teams at SESYNC have access to facilitation support from our Research Program staff, we recognize that beyond SESYNC, many teams may not have access to the services of an external facilitator and will need to develop this capacity from within. Whether team leaders are working with an external facilitator, with a member of their team, or taking on this role themselves, careful preparation is essential. Taking the time to reflect on the kinds of assistance you need—and the options available to you to meet those needs—can help teams anticipate, address, and potentially avert many of the difficulties that can arise during a meeting. That said, facilitators aren't only for solving problems: they can help groups unlock their full potential, even when collaborations are smooth and productive.

Here, we share approaches and practices we use at SESYNC in facilitating synthesis meetings, trainings, and workshops to help improve teamwork processes. This guide is intended to be a practical introduction.

PART 1 gives an overview of different facilitative roles and provides considerations to bear in mind if you will be working with an external facilitator or asking a member of your team to help.

PART 2 covers steps to take before a meeting begins, whether you are preparing to facilitate for a full meeting or a single session.

PART 3 presents common techniques and practices that you can use during meetings, from establishing ground rules and managing time to checking in and seeking feedback.

PART 4 shares some advice for reflecting, debriefing, and continuing to work with teams after the meeting is finished.

[1] For further information on the challenges of conducting team-based socio-environmental synthesis research, see: Margaret Palmer et al., "Practices for Facilitating Interdisciplinary Synthetic Research: The National Socio-Environmental Synthesis Center," *Current Opinion in Environmental Sustainability* 19 (April 2016): 111–22, https://doi.org/10.1016/j.cosust.2016.01.002.

PART 1
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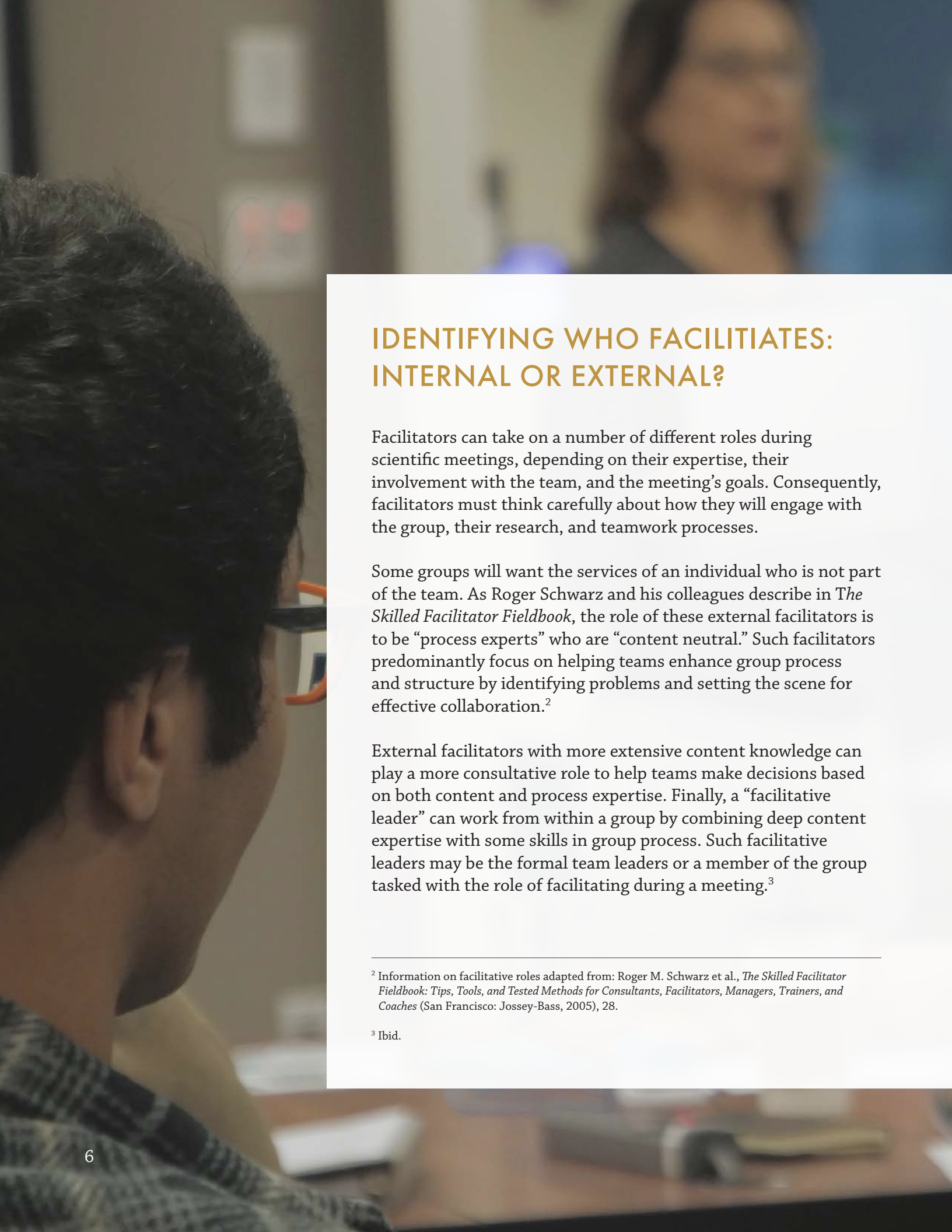

IDENTIFYING WHO FACILITIATES: INTERNAL OR EXTERNAL?

Facilitators can take on a number of different roles during scientific meetings, depending on their expertise, their involvement with the team, and the meeting's goals. Consequently, facilitators must think carefully about how they will engage with the group, their research, and teamwork processes.

Some groups will want the services of an individual who is not part of the team. As Roger Schwarz and his colleagues describe in T*he Skilled Facilitator Fieldbook*, the role of these external facilitators is to be "process experts" who are "content neutral." Such facilitators predominantly focus on helping teams enhance group process and structure by identifying problems and setting the scene for effective collaboration.[2]

External facilitators with more extensive content knowledge can play a more consultative role to help teams make decisions based on both content and process expertise. Finally, a "facilitative leader" can work from within a group by combining deep content expertise with some skills in group process. Such facilitative leaders may be the formal team leaders or a member of the group tasked with the role of facilitating during a meeting.[3]

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[2] Information on facilitative roles adapted from: Roger M. Schwarz et al., *The Skilled Facilitator Fieldbook: Tips, Tools, and Tested Methods for Consultants, Facilitators, Managers, Trainers, and Coaches* (San Francisco: Jossey-Bass, 2005), 28.

[3] Ibid.

Working with an External Facilitator

The first step in working with an external facilitator is to understand the kinds of services they can provide. Skilled facilitators are experts in meeting planning, designing effective agendas, and promoting collaborative teamwork. You can further expect your facilitator to advocate for an inclusive, equitable process that gives voice to all on the team.

Facilitators have different styles and strengths—some may be experts in visual facilitation, while others may be particularly skilled at fostering generative discussions or observing team dynamics. In deciding whether or not a facilitator is the right fit for your team, consider how well their skills, approach, and style match your team's needs.

While external facilitators may not necessarily be experts in your research, they should be invested in learning some background about your work, and they should be prepared to listen and learn from you and your team. Plan to play an active role in preparing your facilitator for the meeting—share information about key concepts, important terminology, and your research goals.

Working with an external facilitator is an iterative process. Expect to have multiple conversations with them in advance of the meeting, where you can respond to their questions and discuss your project, the team, and the meeting agenda, including your goals for the meeting and for each session. This time will also allow you to discuss team dynamics and any challenges your group may be experiencing.

The more your facilitator can learn about your topic and team, the more effective they will be. The success of an external facilitator in helping a team reach their goals will depend on how effectively you develop shared knowledge and mutual trust with them. Ideally, the team lead and facilitator will be committed to co-learning and co-development, from the initial planning phase through a final assessment of outcomes.

WHERE TO LOOK

There are many resources available online and many options for finding an external facilitator. The International Association of Facilitators is a good place to start. If the costs of hiring an external facilitator are prohibitive, consider working with team members to trade off different facilitative roles.

Facilitating When You're Part of a Team

An alternative to working with an external facilitator is for you to facilitate as a team leader or a team member. Keep in mind that facilitating all or part of your team's meeting can present a number of potential challenges. While great benefits can come from having strong content knowledge, it is important to put your personal goals and potential scientific biases aside; the primary role of any facilitator is to work for the group. If you approach facilitation with an agenda other than the group's agenda, you will undermine the process and risk losing the trust of your team.

Hopefully, you or your team members will take on a facilitative role to provide an essential, altruistic service to the team—one that builds on your strengths and willingness to contribute extra time to this aspect of teamwork. In facilitating, you will need to balance focusing on your teammates with your own scientific insights—be sure to clarify when you are speaking as a facilitator, and when you are contributing as a researcher. Those working from within face the challenges of structuring dialogue, building consensus, and possibly mediating disputes between your own colleagues. This can be particularly fraught given different personalities, career stages, and disciplines within highly interdisciplinary teams.[4]

Many of these challenges may be compounded when you take on a facilitative role as a team lead, given that you likely have conceptualized the initial ideas for the project. You may have also invested significant time developing the proposal for the group's work. Team leads who facilitate must ensure a balance between process and progress and be willing to allow the team to reshape, refine, and strengthen those ideas as they co-develop the project.

For these reasons, team members can be excellent facilitators or co-facilitators during a meeting—remember that facilitation isn't only for team leads. There is nothing like a fellow team member's knowledge of the group and the team's experiences. Sharing this role with team members can help promote collective ownership of the project, making way for new lines of thinking and distributing leadership responsibilities among the group.

[4] Arnout R. H. Fischer, Hilde Tobi, and Amber Ronteltap, "When Natural Met Social: A Review of Collaboration between the Natural and Social Sciences," *Interdisciplinary Science Reviews* 36, no. 4 (2011): 341–58, https://doi.org/10.1179/030801811X13160755918688; Linda Gratton, Andreas Voigt, and Tamara Erickson, "Bridging Faultlines in Diverse Teams," *MIT Sloan Management Review* 48, no. 4 (2007): 22–9, https://doi.org/10.1109/EMR.2011.5729976; Karen A. Jehn, Sonja Rispens, and Sherry M. B. Thatcher, "The Effects of Conflict Asymmetry on Work Group and Individual Outcomes," *Academy of Management Journal* 53, no. 3 (2010): 596–616, https://doi.org/10.5465/amj.2010.51468978.

ASKING A TEAM MEMBER TO FACILITATE

Ideally, team members who take on this role will have volunteered. In the absence of volunteers, team leads should carefully consider the implications of whom they ask to help facilitate a meeting. Are you asking a more experienced team member who may expect respect? A team member who is seen as the most neutral? Or perhaps a more junior team member with the idea that they will take on a more supporting rather than scientific role? To avoid burnout and ensure that all team members are able to fully engage and make ongoing intellectual contributions, don't ask team members to be in a facilitative role for too long. Consider asking at least two people who can take turns.

DIFFERENT OPTIONS FOR TEAM FACILITATION

Facilitating Role	Potential Benefits	Potential Challenges	Strategies to Consider
External Facilitator	• Highly trained in meeting design and facilitative techniques • A more neutral presence	• Less familiarity with the research topic • Team leads give up some control • Expense	• Invest time in preparing with your facilitator • If funding is an issue, consider asking a team member to help instead
Team Leader & Facilitator	• Strong knowledge of research and team members • Able to guide group on multiple levels from conceptual to methodological	• Need to balance facilitation role with research engagement • Fatigue • May be overly invested in maintaining original project ideas	• Don't facilitate the entire meeting • Work with a co-facilitator or ask for help with discrete tasks such as timing • Be open to reshaping project ideas
Team Member & Facilitator	• Broadens the distribution of leadership roles and responsibilities • Strong team and research familiarity • Professional development	• Need to balance facilitation role with research engagement • Less authority when mediating disputes between colleagues • May be seen in service role if younger	• Prioritize volunteers and work with more than one team member • Establish the role and authority of the facilitator in advance • Think carefully about who is being asked to facilitate and why

Different Modes of Engagement

Whether you are working with an external or an internal facilitator, different degrees of engagement with the meeting process can be helpful, depending on the needs and goals of your team. For many groups, a very basic approach to facilitation is all that is required. Meeting moderation can be immensely valuable; in this case, the facilitator's role would include keeping track of time, moving through agenda items, sequencing speakers, and balancing voices in the room.

In a more engaged scenario, a facilitator may also provide feedback on meeting and agenda design. During the meeting, their role may include more active shaping of discussions, tracking themes, and at times becoming a questioner who can help the team clarify points of confusion or negotiate common ground amidst conflicting viewpoints.

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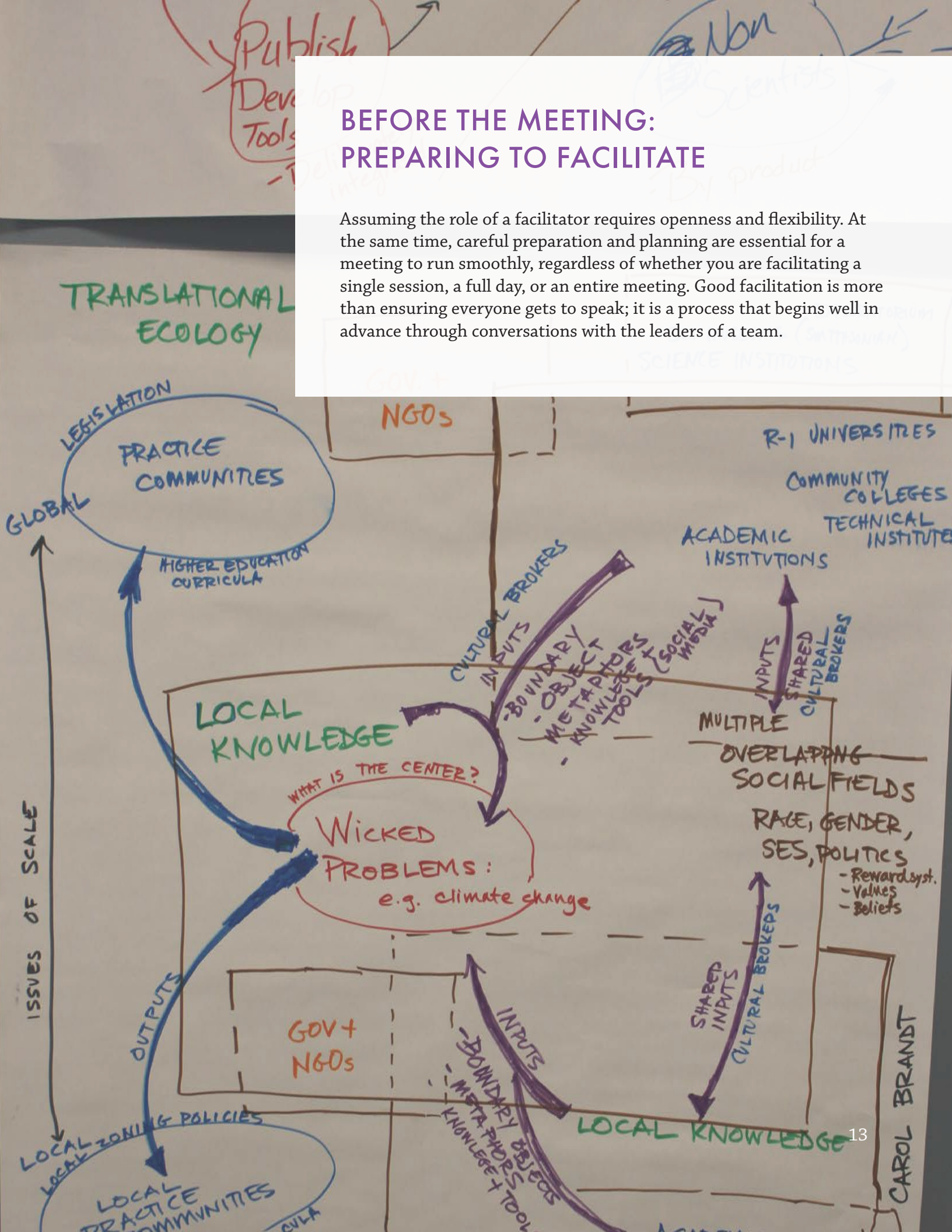
BEFORE THE MEETING: PREPARING TO FACILITATE

Assuming the role of a facilitator requires openness and flexibility. At the same time, careful preparation and planning are essential for a meeting to run smoothly, regardless of whether you are facilitating a single session, a full day, or an entire meeting. Good facilitation is more than ensuring everyone gets to speak; it is a process that begins well in advance through conversations with the leaders of a team.



Understand the Goals and Motivations

In preparing to facilitate, it is essential to understand the meeting's different goals and motivations. Ask the following:

- Why is the meeting taking place and why will people be there?
- If this is a long-term research project, what are the overarching goals of the project, and what research questions are driving the team's work?
- More specifically, what are the planned goals and outcomes of the meeting?

Having this understanding can help you envision the best possible outcome for the meeting and then work towards that goal. For example, if the key motivation is to develop consensus, it will be important to allow sufficient time for full group discussions—and to keep an eye out for overly dominant as well as potentially overlooked voices during the meeting. As part of your preparation, you will want to learn more about different points of view that members of the group may have.

Learn about the Group

Learn what you can about who will be in the room—or on the Zoom call. Know how many people will be at the meeting. Read bios in advance. Study a list of participants and their names and affiliations. Learn about the structure of the group and its leadership.

Among other things, where the team is in their research process will affect how they approach their meeting. Is the team preparing for a first meeting, or are they midway through an ongoing collaboration? If it is a first meeting, do some people know one another while others don't? If it is an ongoing collaboration, are any new members joining the group who might not know the other participants?

For interdisciplinary collaborations, be aware of the different disciplines represented. Does the group include a mix of academics and practitioners? Are people at similar or different stages in their careers? All of these considerations can affect group dynamics during the meeting.

Learning about the group in advance will help you in several ways. On a practical level, you will be better prepared to remember people's

DIVERSITY, EQUITY, INCLUSION, AND JUSTICE

In a recent study of PhDs in the United States, Bas Hofstra and his colleagues found that the work of women and racial minorities tends to be more innovative, yet less recognized and cited than the work of men and white scholars.[5] Similar disparities can also play out within research teams. As a facilitator, be aware of the potential for men, more senior scholars, or those who are in the majority to speak first or for longer periods of time—and prepare to manage and correct for these tendencies during discussions.[6] As Dafina-Lazarus Stewart has written, "Inclusion asks, 'Has everyone's ideas been heard?' Justice responds, 'Whose ideas won't be taken as seriously because they aren't in the majority?'"[7] As a facilitator, you have the opportunity to help ensure that all participants are heard, and that their insights are considered equally and with respect. In this way, facilitators can help establish and fully promote a team culture of equity and inclusion that will positively impact the entire teamwork process.

[5] Bas Hofstra et al., "The Diversity–Innovation Paradox in Science," *Proceedings of the National Academy of Sciences* 117, no. 17 (2020): 9284–91, https://doi.org/10.1073/pnas.1915378117.

[6] For a review of gender differences in speaking time, see: Deborah James and Janice Drakich, "Understanding Gender Differences in Amount of Talk: A Critical Review of Research," in *Gender and Conversational Interaction*, ed. Deborah Tannen (New York: Oxford University Press, 1993), 281–312. For a recent study showing that women are underrepresented as academic speakers in colloquia, see: Nittrouer et al., "Gender Disparities in Colloquium Speakers at Top Universities," *Proceedings of the National Academy of Sciences* 115, no. 1 (2018): 104–8, https://doi.org/10.1073/pnas.1708414115.

[7] Dafina-Lazarus Stewart, "Language of Appeasement," *Inside Higher Ed*, March 30, 2017.

names during the meeting. Understanding the makeup of a group can aid in the meeting planning process and help you ensure that the team hears multiple perspectives during discussions. It can also help you anticipate interpersonal issues that may arise. For example, if new members are joining a team, you may want to be particularly observant of newer participants' degree of engagement and integration into the group.

Being attentive to group dynamics can be equally necessary in cases where different languages are spoken, or when some gender or racial identities are in the majority on a team.[8] It's the facilitator's job to work with the team to correct course when needed and to ensure collective goals are met and the collaboration is sustainable for all involved.

[8] Hannah Rubin and Cailin O'Connor, "Discrimination and Collaboration in Science," *Philosophy of Science* 85 (July 2018): 380–402, https://doi.org/10.1086/697744.

Know the Sessions

In addition to the meeting's overall goals, what are the goals for each of the meeting's specific sessions? For example, is a session designed for the group to get to know one another at a first meeting? Is the goal to resolve a specific issue or to discuss a key term that people understand differently? Is it to assign tasks and make sure everyone knows what their future work will be?

As a facilitator, you may use your understanding of a session's goals to provide feedback to help refine the meeting's agenda, to determine if sufficient time is allotted to meet the goals of each session, and/or to guide your prompts for group discussions. Furthermore, you can use your understanding to respond to issues that may arise during the meeting.

Meeting and session goals provide a roadmap for the group; as a facilitator, you need to know where a group is headed in order to help them get there.

MEETING AND AGENDA DESIGN

There are many ways to foster an inclusive environment where members of a group are comfortable sharing ideas and asking questions. This begins before the meeting, by designing an agenda that incorporates different modes of engagement—not only full group discussions, but also opportunities for talking in pairs, or other small group work, for example. This allows people with different learning and communication styles to engage fully throughout the meeting.

Develop Prompts

In coordination with the team leads, develop a series of prompts to advance discussions during the meeting; these should support the meeting's and individual sessions' goals. Prompts might focus on: discussing key terms, soliciting feedback, or understanding each participant's views of the research problem.

Tailor specific prompts to the context and topic of the meeting. For example, in an initial group discussion about the central research question that motivates a meeting, a key prompt might be "Why does it matter to pay attention [to this topic]?"

Another prompt for the same session could be a reminder for the facilitator to frame the discussion in the context of what will come later in the meeting. For example: "We will be talking about specific cases in more detail this afternoon; the purpose of this discussion is to frame the importance of the broader issue."

As these examples show, prompts can serve multiple purposes—they can be motivators for discussion; signposts for where the meeting will be headed; and connecting statements about how different sessions relate to one another, and/or how each session ties back to the broader goals of the meeting.

AWARENESS OF TEAM SCIENCE

It is helpful to be aware of some of the common challenges that can emerge as teams work together. As Michelle Bennett, Howard Gadlin, and Christophe Marchand point out in their *Collaboration and Team Science Field Guide*, for example, many groups go through periods of disagreement. Bennett and her colleagues explain that this isn't necessarily a reflection of the group process *not* working, but rather an important opportunity for differences to be expressed.[9] Teamwork almost always involves repeated cycles of divergence and convergence as individuals advance their positions, listen and learn from the rest of the team, and ultimately come to a shared understanding. Such iterative co-learning is at the heart of good teamwork. These cycles can be much more difficult for interdisciplinary teams where disciplinary concepts and epistemologies can seem insurmountable, especially in the early stages of a project. As a facilitator, being aware that this is a common stage of collaborative work can allow you to remind groups that the struggles they are experiencing are part of a known, broader trend—not unique to one group alone. Indeed, they may foreshadow the emergence of truly creative outcomes.

[9] For a summary of the concept of "storming"—one of the more challenging stages of collaborative work—see: L. Michelle Bennett, Howard Gadlin, and Christophe Marchand, *Collaboration and Team Science Field Guide* (National Cancer Institute, National Institutes of Health, 2018), 46.

Prepare a Guide

Prepare your own facilitator's version of the meeting agenda with additional details about each session that will help you keep the meeting running smoothly. This could include information about who is speaking and for how long, the session goals, your prompts, and any other instructions, logistical reminders, or notes. You can use these notes and prompts in real time to advance conversations and adapt your approach in any given session, or even to redesign the agenda as the meeting progresses.

FACILITATION AGENDA TEMPLATE

Time	Title	Leader	Purpose	Desired Outcomes/ Goals	Notes, Considerations, & Prompts

Read and Review

Review any additional materials that will help you prepare. For a team research project, review the project proposal, participant bios, relevant research papers, and any other documents participants have read or written in advance. Ask clarifying questions and do a final review of the meeting plan with the team leads.

Prepare the Space

If the meeting will be held in person, go through the physical space in advance. Is the space set up in a way that supports the number of people attending and the activities that are planned? Will you be able to move around the space as necessary? Do you have the materials and supplies you need, like markers or sticky notes?

You won't have control over everything, so have a plan for how you will work around any challenges.

Is everything working—especially technology needed to connect with online participants? Are you comfortable using the technology you need and/or do you know who you can contact if things go wrong? If the meeting will be held fully or partly online, do you have a plan for utilizing and moderating breakout rooms, Google Docs, chat functions, and other virtual tools and materials?

For in-person meetings, if you can move tables and chairs in advance, plan a configuration that is adapted to the design of the meeting. For example, pods of tables and chairs can be ideal for small-group work, while also giving the facilitator space to move around the room and between groups. In other situations, arranging chairs around a larger table may be ideal for sessions that are focused on full-group discussions.

You won't have control over everything, so have a plan for how you will work around any challenges in the space, such as the placement of outlets, poor temperature control, or the location of screens or whiteboards. If you will be facilitating a meeting that will include both in-person and online participants, take note of where the cameras and screens are relative to your in-person group, and work with on-site technical support to understand options for screen sharing. Also be aware of the placement and potential limitations of microphones, as audio capture is often a limiting factor to fully engaging remote participants in the conversation.

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DURING THE MEETING: PRACTICES AND TECHNIQUES

Advance preparation gives you a structure for approaching the meeting. But each meeting is different—the unexpected happens, and the same group may vary in tone, mood, and sense of cohesion from one day to the next. While all facilitators develop their own styles and approaches, a number of common practices and techniques, from establishing ground rules to observing group dynamics, can be useful when responding to challenges and guiding a group towards its goals.[10]

[10] There is a wealth of information on facilitating meetings. For further reading, see, for example: Sam Kaner et al., *Facilitator's Guide to Participatory Decision-Making* (San Francisco, CA: Jossey-Bass, 2014); National Oceanic and Atmospheric Administration (NOAA), "Introduction to Planning and Facilitating Effective Meetings" (Charleston, SC: NOAA Office for Coastal Management, 2010); Priya Parker, *The Art of Gathering: How We Meet and Why It Matters* (New York: Penguin Random House, 2018); Ray Ringel, "Your Facilitation Playbook," Ringel Group, posted February 2, 2016, https://ringelgroup.com/your-facilitation-playbook/; and Schwarz et al., *The Skilled Facilitator.*

Set the Tone

The way you begin a meeting sets the tone for the discussions to come. Gauge whether a team would respond best to a lively and informal atmosphere at a given stage or a more serious, down-to-business tone. Early in the meeting, consider taking the time to collaboratively establish and agree on ground rules for participation and respectful engagement.[11] Ask participants: What do you need to feel energized and engaged in a team setting? How would you like to be treated by your colleagues? What does an ideal collaboration look like?

After a group discussion confirming the feasibility and/or desirability of volunteered needs and requests, the facilitator should record the resulting ground rules in a Google Doc for virtual meetings, or on a large poster board or drafting paper for prominent wall display during in-person meetings. You can refer back to these ground rules over the course of the meeting if you observe language or behaviors that run counter to how the team agreed to collaborate.

By the end of the meeting, the facilitator—or in many cases, the team leads—should translate the ground rules into a more formal and long-lasting document. Some teams ask all members to consider these "official agreements" and to sign off on them. Be sure to let team members know that this is an evolving document, and its intention is for the good of the group.

[11] Parker, *The Art of Gathering.*

Provide a Voice to All

As a facilitator, it's essential to acknowledge your role in helping to balance voices and manage time during discussions. Some techniques to use during meetings include:

- Surveying the room (physical or virtual) for participants' indications that they want to speak
- Keeping a written queue when multiple people are waiting and acknowledging who is in the queue
- Periodically opening space for people who haven't spoken yet.

Sam Kaner and his coauthors' *Facilitator's Guide to Participatory Decision-Making* includes a number of other suggestions and techniques.[12]

Many other practices can help foster an inclusive environment where all participants will be comfortable contributing. These include using gender-neutral language; being careful not to make assumptions about people's identities and pronouns; and learning how to pronounce people's names—practice in advance if feasible.

Overlooking these steps can create an environment of exclusion that is draining for participants who are part of underrepresented groups.[13] By working to create an inclusive environment where differences are respectfully acknowledged, more unique experiences and perspectives will surface, enriching discussions and the group as a whole.

[12] For a comprehensive overview of facilitative techniques including paraphrasing, balancing, and summarizing, see: Kaner et al., *Facilitator's Guide*, chap. 4.

[13] Ayana Johnson addresses this issue more broadly in *The Washington Post*. As Johnson writes, "Toni Morrison said it best, in a 1975 speech: 'The very serious function of racism … is distraction. It keeps you from doing your work. It keeps you explaining, over and over again, your reason for being.'" See Ayana Johnson, "I'm a Black Climate Expert. Racism Derails Our Efforts to Save the Planet," *The Washington Post*, June 3, 2020, https://www.washingtonpost.com/outlook/2020/06/03/im-black-climate-scientist-racism-derails-our-efforts-save-planet/.

Manage Time

Managing time during a meeting is more than a logistical task. Through time, the meeting agenda becomes your guide to advancing discussions, helping the group achieve its goals, and taking the breaks people need for their mental acuity and physical wellbeing. As a facilitator or moderator, you guide the group in increments of minutes, hours, and sometimes days.

In beginning a session, it can be helpful to *forecast* the amount of time available and what the group is going to do (i.e., "In the next hour, …"). It can also be helpful to provide a *reminder* or *time check* at an agreed-upon interval—giving advance notice before group work should wrap up, for example. Finally, *wrap up* with a reminder about what the group accomplished in the last session, when the group will reconvene, and for what purpose.

It is also important to equitably manage individuals' speaking time. It's inevitable that some participants will claim more time. This is detrimental to the collaborative process when it excludes other points of view or diminishes voices from different disciplines and more introverted or junior team members.

A facilitator needs to be respectful but clear when allocating time and when shifting discussion to a new person. It's often useful at the start of a session to note, "I'm going to seek input from all and will ask everyone to be clear and as brief as possible, and I'll ask you to stop when we need to move on to hear another member of the team."

MANAGING TIME CAN BE STRESSFUL

Having a well-designed agenda with enough time for each activity and ample time for breaks will make this task easier. Even if you're feeling internally stressed, try not to project it to the group. Learning to be comfortable with some flexibility is also helpful; falling a few minutes behind is not a failing. And if you are a bit ahead of schedule, few people complain about a little extra time for breaks. Or perhaps you can use that time to return to an earlier invigorating debate or exercise not yet resolved. It gets easier with practice.

Restate, Recap, Reflect

Over the course of a meeting, the facilitator can help clarify, summarize, and guide discussions by restating (in the moment) or recapping (at the end of a session) what they have heard. Your input can range from restating one person's individual point to recapping broader themes that have emerged.[14]

This is an example of why advance preparation is so important. As a facilitator, having learned about the scholarly topic, vocabularies, and epistemologies of the various team members makes a world of difference.

When summarizing or restating, it can be helpful to ask for clarification from the group—"Did I understand that?" This helps externalize the group's thinking, while also giving people an opportunity to respond.

Ask for clarification from the group—"Did I understand that?"

[14] See, for example: Kaner et al., *Facilitator's Guide*, 63.

Active Questioning

Restating and recapping can help a group understand connections between ideas that have already been expressed in discussion. Another key role of a facilitator can be to guide a group towards ideas and connections that have not yet been expressed.

Even if you have prepared prompts ahead of time, the most experienced facilitator can never predict exactly how a discussion is going to go. As such, you should be comfortable asking the group questions on the fly that respond to evolving conversations.

Depending on the discussion, you might ask the group: Does this change the way the research project is being conceptualized? Does this surprise anyone? How does *x* relate to *y*? Could you say more about what you mean by that? Does anyone see this differently?

Visualize and Record

Provide a visual recording of important points by writing out meeting goals and objectives in advance and placing them in a visible location for members of the group to refer back to during the course of the meeting—such as a flip chart or whiteboard for in-person gatherings or in a shared slide or Google Doc for an online meeting.

During group discussions, many facilitators also record key themes and ideas that emerge. Use clear writing (ideally block letters with lines in alternating colors), and strategically placed borders or underlining to highlight important points.[16]

For additional suggestions, see the "Chartwriting Technique" chapter in Kaner and his coauthors' *Facilitator's Guide to Participatory Decision-Making*. Among their recommendations: don't try to color-code in the midst of a complex discussion. As they write, "This usually turns into a mixed-up mess" because "a group's thinking process is generative and dynamic—the categories keep shifting as people build on each other's ideas."[17]

YOU DON'T NEED TO DO EVERYTHING

Know your strengths and the strengths of the team's members. If visual recording is not your thing, maybe someone else in the group is excited to do it. Pair up and work with someone else! Want to learn more? There is an entire field of visual and graphic facilitation.[15]

[15] For further reading, see: Jeroen Blijsie, Tim Hamons, and Rachel S. Smith, eds., *The World of Visual Facilitation: Unlock Your Power to Connect People & Ideas* (The Visual Connection Publishers, 2019).

[16] Ibid., 68-69
[17] Ibid., 69.

ENGAGEMENT IN A VIRTUAL ENVIRONMENT

As meetings have shifted to fully online formats during the COVID-19 pandemic, new facilitation challenges and opportunities have emerged. Sensing the collective mood, checking in informally during coffee breaks, and reading meeting participants' physical cues can all be more difficult in a virtual environment. Some virtual facilitation strategies include encouraging participants to use the chat as a space to pose questions or relevant comments; encouraging participants to engage by using meeting reactions in Zoom; and integrating tools for visual collaboration such as Miro, Mural, Padlet, and the whiteboard feature in Zoom. As with any facilitation technique, be sure to practice in advance—and make sure there is a plan to provide information, instructions, and/or links to meeting participants who may be learning new tools. For more suggestions, see SESYNC's "Resources and Tips for Elevating Your Team Science in an All-Virtual World."[18]

[18] Rachael Blake et al., "Resources and Tips for Elevating Your Team Science in an All-Virtual World," National Socio-Environmental Synthesis Center, accessed January 29, 2021, https://www.sesync.org/resources-and-tips-for-elevating-your-team-science-in-an-all-virtual-world; see also: Mark Tippin, Jim Kalbach, and David Chin, *The Definitive Guide to Facilitating Remote Workshops: Insights, Tools, and Case Studies from Digital-First Companies and Expert Facilitators* (MURAL, 2018), https://www.mural.co/ebook.

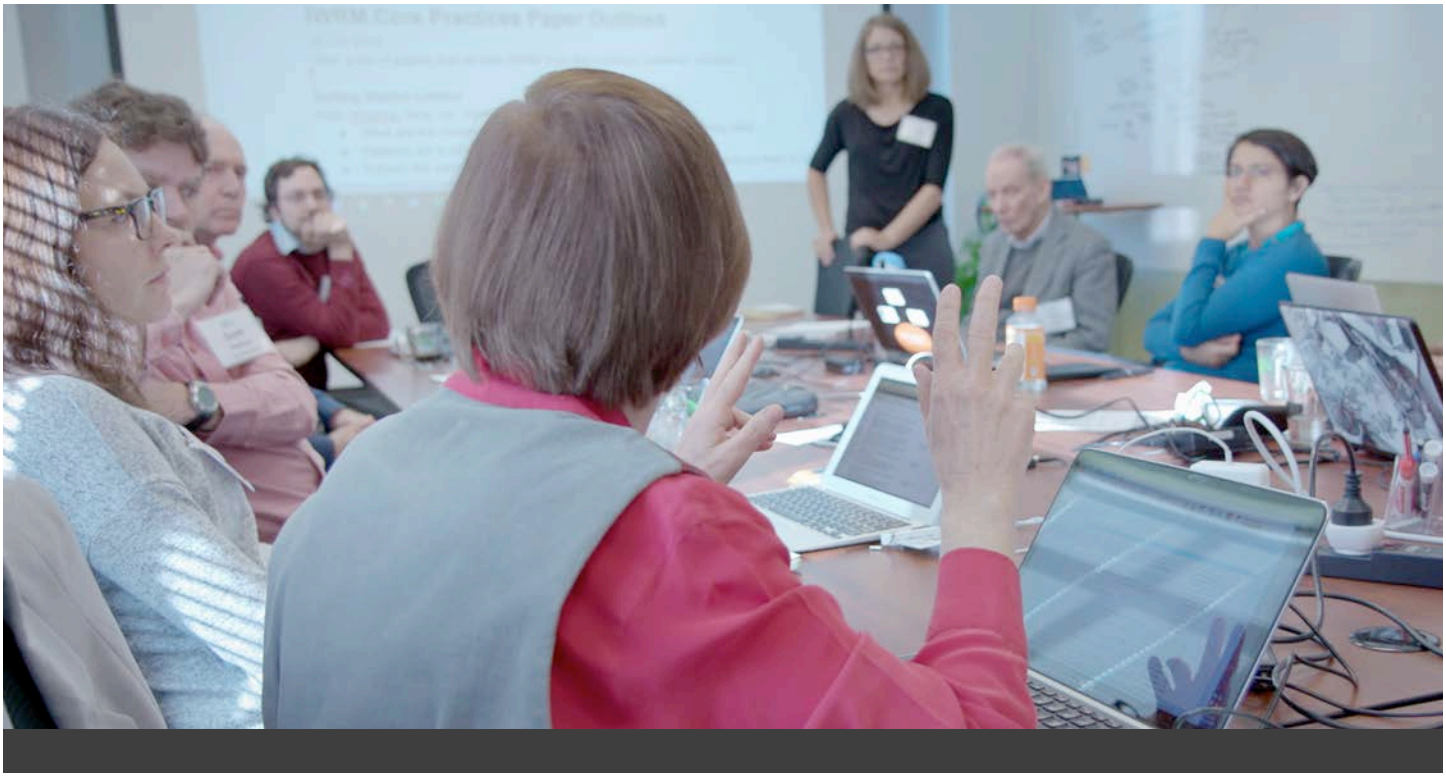
Navigate the Space

Be aware of how you move through the meeting space. In an in-person gathering, where you are in the room can make a difference. Changing your vantage point can allow you to see group dynamics differently.

Shifting your location can also shift the focus of the conversation. For example, moving away from the front of the room can re-direct participants to talk to each other rather than to you. Movement can also help with transitions from one speaker to the next.

Within the space, seating arrangements also matter. Encouraging participants to move where they are sitting over the course of a meeting can change the group dynamics and allow new connections to emerge.

In virtual meetings, consider when and how you may want to shift the group's attention between different online spaces—for example, to breakout rooms in Zoom or perhaps smaller discussions via Slack, or by directing the focus to a collaborative Google Doc, a visual collaboration tool, or a comment that someone has shared in the chat.



Pay Attention

Your ability to observe the room and thereby become an advocate for process is one of the most important aspects of being a facilitator. As the meeting progresses, observe what appears to be working well and where challenges arise, and adjust your approach and corresponding techniques.

- ☐ Who is quick to speak and who takes more time?
- ☐ What are different members of the group getting animated about?
- ☐ When does excitement seem to wane?
- ☐ Are there questions about process, content, or purpose?
- ☐ What kinds of doubts or confusion are being expressed?
- ☐ In response, does the original agenda need to be revised in light of either emergent breakthroughs or concerns?

Paying attention to meeting dynamics can be helpful in many ways, including when: working to balance voices in the room during discussions; checking in with team leads about group dynamics; making decisions about what to recap or reflect back to the group; and working to improve your facilitation skills over time.

Check In with the Group

It is important for the facilitator to ask the group itself to discuss how they feel about the process during the meeting—even if groups may initially feel uncomfortable about it. Has it met their needs? Is it advancing them toward their shared goals? Has it been inclusive and equitable?

You can build these check-in sessions into the beginning and/or end of each day. If there are signs of tension, the facilitator can ask the participants to comment on how well the facilitator is doing and if the group needs more (or less) from them.

It is often useful to be available for one-on-one conversations or to seek out specific individuals to get their feedback. The facilitator can collate and then reflect back to the leaders and to the group as needed. Establishing a neutral, knowledgeable presence is key to being an effective advocate for process throughout.

THE MIDPOINT OF A MEETING

Eventually, it is common for teams to feel that they are not making progress. This can often happen when there is disagreement on basic concepts, or when there are difficulties framing or re-framing guiding questions. Frustration is especially common at the midpoint of a meeting, when the excitement has slightly ebbed, and the reality of the work begins to set in. As teams work together, projects transition from being primarily conceptualized by the team leads to the full group; from a proposal and an agenda that existed on paper to a meeting that is taking place in real time; and from ideas to practice. In the midst of these shifts, being able to step back and take new perspectives into consideration can be particularly challenging if you are both leading a team and facilitating a session. Having someone facilitate who is not also leading the group can allow team leads to listen and think openly with their team members, rather than feeling pressured to explain, promote, or defend.

When the Group Gets Stuck

Over the course of an interdisciplinary collaboration, disagreements will inevitably arise—and for a variety of potential reasons, from conceptual to interpersonal. Building on your observations, identify the cause(s) of the problem. Is there a sense of dissatisfaction? Does someone not feel heard? Is there disagreement about the usefulness of a central concept or the validity of a methodological approach?

In responding, it is important to differentiate whether a problem stems primarily from an intellectual disagreement or an interpersonal issue. While interpersonal problems are a drain on the team, conceptual disagreements can be productive and lead to innovative outcomes if welcomed openly and treated cordially.[19] You won't achieve groundbreaking results if everyone agrees.

[19] L. Michelle Bennett and Howard Gadlin, "Conflict Prevention and Management in Science Teams," in *Strategies for Team Science Success: Handbook of Evidence-Based Principles for Cross-Disciplinary Science and Practical Lessons Learned from Health Researchers*, eds. Kara L. Hall, Amanda L. Vogel, and Robert T. Croyle (Cham, Switzerland: Springer International Publishing, 2019): 295–302, https://doi.org/10.1007/978-3-030-20992-6_22; Kay Lovelace, Debra L. Shapiro, and Laurie R. Weingart, "Maximizing Cross-Functional New Product Teams' Innovativeness and Constraint Adherence: A Conflict Communications Perspective," *Academy of Management Journal 44*, no. 4 (2001): 779–93, https://doi.org/10.5465/3069415.

Revisit Goals

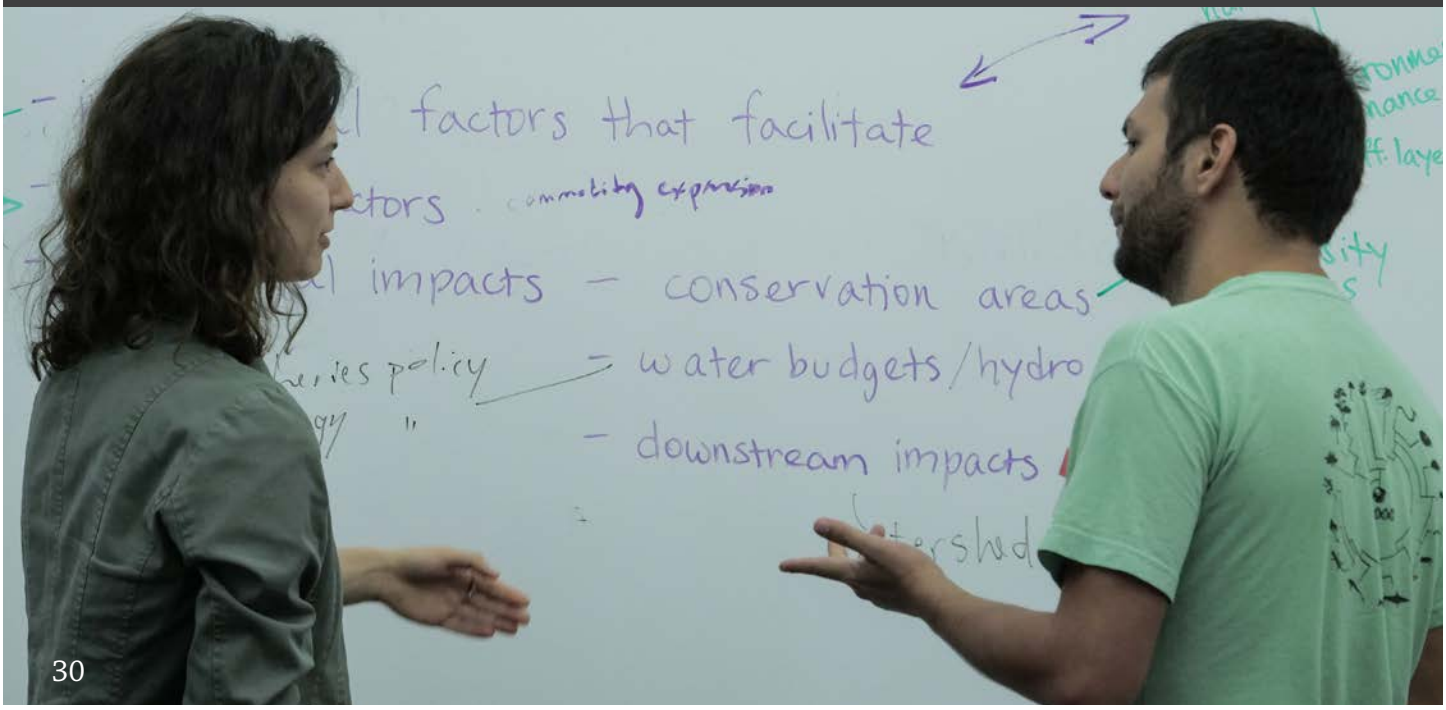
At times, it can be helpful to reflect back to the group and acknowledge what you're seeing or to re-state different points of view. But doing that alone won't necessarily resolve an issue. Your awareness of the meeting and session goals can help you assess whether an issue or disagreement lies at the core of the group's work or if it is more tangential.

If an issue is more tangential, one facilitation strategy is to put a topic in a "parking lot" for later—writing it down on a whiteboard, flipchart, or Google Doc doesn't ignore it, but also allows you to return to the focus of the session.

If an issue addresses a central problem, people may also need time for further thinking. Ask a clarifying question or provide a prompt for people to consider, and return to it the next session, the next day, or even the next meeting. Creating the space to come back to things later can be a useful facilitation strategy.

I SAY *X*, YOU SAY *Y*

Concepts that are central to an interdisciplinary group's work—such as vulnerability or resilience—often have different meanings in multiple disciplines. In some cases, it can be enough for a group to acknowledge and understand different disciplinary perspectives on the definitions of a concept. In other cases, reaching consensus about a working definition for a key term may be vital for a team to proceed with their work.



Balance Structure and Flexibility

Is everyone completely exhausted? Are people's expressions becoming blank, or has the level of engagement diminished significantly? It may be time to take a break. Alternatively, is there an animated and engaged discussion, and many people still want to talk? You might extend a few minutes into a scheduled break (but not by too much!).

Has a central issue been raised that will require time to address, but isn't on the agenda? Revisit the meeting plan in consultation with the team leads and participants in the group. This will feel more natural if you have established a practice of periodically checking in with members of the group over the course of the meeting.

Also be aware that your own impressions of group dynamics, what is working and what isn't working, are all subjective—other members of the group will likely have different perspectives. Listen to what people have to say. Be open to making changes in response to feedback—in real time, or for the next meeting.

PART 4
AFTER THE MEETING

Facilitation is exhausting. Over the course of a meeting, you are keeping track of time, who is speaking, who wants to speak, themes and concepts, group dynamics and expectations, what is happening next, logistics, and the broader arc of the meeting. You will make mistakes. When you're done, decompress. Take a break. Get outside, if you can. Be sure to also take some time for self-reflection. Consider what went well. What could you do better? Write it down for next time. There is always room to improve.

If possible, it's instructive to have a formal debriefing with team leaders and other members of the group to understand their impressions of how the meeting worked. If any products resulted from your facilitated sessions, like a graphic, a visualization, or a list of recorded themes, be sure to share these with the team.

For groups that will continue to work together, your role could also involve helping the team formalize the meeting's established ground rules. The team can then develop these rules into a participation agreement that will guide the group's interactions for the remainder of their collaboration. Such an agreement could include a code of conduct, guidelines on authorship, and roles and responsibilities within the group.

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