

4-20-2017

Deliberative Technology: A Holistic Lens for Interpreting Resources and Dynamics in Deliberation

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Recommended Citation

Sandfort, Jodi and Quick, Kathryn (2017) "Deliberative Technology: A Holistic Lens for Interpreting Resources and Dynamics in Deliberation," *Journal of Public Deliberation*: Vol. 13 : Iss. 1 , Article 7.

Available at: <http://www.publicdeliberation.net/jpd/vol13/iss1/art7>

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Abstract

We introduce the concept of *deliberative technology* as an integrative framework to encapsulate how facilitators and participants bring different resources into use in deliberative processes. It serves as a holistic lens to observe, explain, and intervene constructively in the unpredictable, emergent dynamics of deliberative processes. We developed the concept of deliberative technology inductively through ethnographic analysis of three deliberative processes. In the three cases, the deliberative processes and their results were quite different, despite common resources, policy contexts, and purposes. We articulate a typology of general types of potential resources for deliberation – methodological techniques, material objects, and conceptual frameworks – and show how they interact with the policy context and the dynamics of the facilitators and participants to produce the deliberative technologies of the three cases.

Author Biography

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Keywords

Deliberative technology; Deliberative methods; Designing deliberative processes; Resources for deliberation; Co-production; Ethnographic research

Acknowledgements

This research was supported by Nicholas Stuber and benefited from the close editing assistance of Victoria Fiorentino.

Introduction

Public deliberative processes can create many positive results, including enabling participants to understand substantive issues, appreciate other perspectives, and build their abilities to develop or act upon solutions (Gutmann & Thompson, 2004; Jacobs et al., 2009; Mansbridge, 1999). To readers of this journal, this almost goes without saying. Yet, attempts to create these results often fail (Fung, 2006; Nabatchi et al., 2012; Quick & Feldman, 2011). No single dimension explains success or failure; the results of deliberation arise through a complex mixing of contextual and design features. However, as deliberation becomes an increasingly expected mode of governance (Leighninger, 2006), there is a thirst for more practical guidance about how to make deliberation efforts more successful.

Seasoned practitioners have a healthy skepticism of how-to guides. They know there is no “master recipe” or set of rules that will reliably produce successful public deliberation. Instead, they are aware that a variety of deliberative techniques exist to serve particular purposes (Creighton, 2005; Kaner, 2007; Leighninger, 2006), and are able to draw nimbly on a wide palette of them to design each deliberation to suit particular purposes (Bryson et al., 2013; Carson & Hartz-Karp 2005). Indeed, as skilled practitioners think through how to accomplish the goals of deliberation, they may experience a diminishing return on investment for advanced planning in deliberation. Many find the unpredictability of deliberative processes not only inevitable, but also inherently desirable. As they gain more experience and judgment, they actively read, respond to, and shape emergent dynamics in deliberation to steward productive deliberation. Thus, a variety of modes of engagement emerge from the interactions among 1) the nature of the problem to be worked on; 2) the policy imperatives about participation (LeRoux, 2009); and the combination of the facilitator’s skills and preferences with available resources (Davies & Chandler, 2012).

This article complements what seasoned practitioners already know by introducing the concept of *deliberative technology* to encapsulate how facilitators and participants bring different deliberative resources into use in particular settings in the design and enactment of deliberation. Developed from inductive theory building from ethnographic research on three deliberative processes, the deliberative technology concept provides a means for clearer understanding about the unpredictable dynamics of deliberation. The cases were selected from a unique field research setting in which hundreds of facilitators were trained in a particular deliberative approach (Quick & Sandfort, 2014). The projects illustrate differences in the implementation despite the fact that all three involve a common

aim, a single geographic region, and the same set of deliberation techniques. In this paper, we use *deliberative technology* to describe the general concept and *deliberative technologies* (plural) to describe and draw attention to the multiple ways in which deliberative technology takes form in particular contexts.

After elaborating the concept of deliberative technology, we present data on how deliberative technologies emerged during the three projects and how participants experienced them. We emphasize the divergences in the experiences of the three processes, even where comparable techniques or concepts or physical materials were used, to make sense of how deliberative technology emerges in practice. We conclude the paper by exploring the implications, for both training and practice, of the new understandings afforded through the deliberative technology concept. In our own experience – as people who are simultaneously practitioners, teachers, and scholars of deliberation – understanding deliberative technology helps people to proactively design *and* adaptively manage deliberative processes.

Deliberative Technology as a Holistic Lens

We use the term “deliberative technology” intentionally as an adaptation of the concept of “organizational technology” (Goodman & Sproull, 1990; Hasenfeld, 1983; Perrow, 1967), which refers to the ways organizations accomplish their work through the operational processes that turn inputs into outputs. Research about organizational technology stresses how whole suites of resources, applied in context-specific and interactive ways, constitute organizational processes (Orlikowski, 1992; Roberts & Grabowski, 1999; Sandfort, 2010).

Applying a lens of deliberative technology helps to emphasize the significance of *how* resources are brought into use in the dynamic interactions of deliberative events and processes. We do not expect most readers of this journal to hold deterministic, formulaic beliefs that deliberative techniques will decide results. However, to the extent that there are lingering expectations in our field that particular deliberation methods should have predictable outcomes (or that getting your technique right will guarantee good results), deliberative technology is one remedy to this misunderstanding. It provides a holistic lens for observing, explaining, and intervening constructively so that practitioners can more successfully design and adaptively manage deliberative events and processes as they are unfolding.

Deliberative technology is holistic in that it integrates related yet distinct literatures and approaches about the judgment practitioners exercise at various stages of deliberation. Specifically, we see it bringing together ideas about:

1. Deliberative design, in which different methods are proactively selected and sequenced to accomplish various processes and outcomes;
2. Skills and training, in which practitioners use knowledge and judgment to implement and adapt different methods during deliberation; and
3. Emergence and complexity, in which the dynamics of deliberative events are co-produced as they unfold.

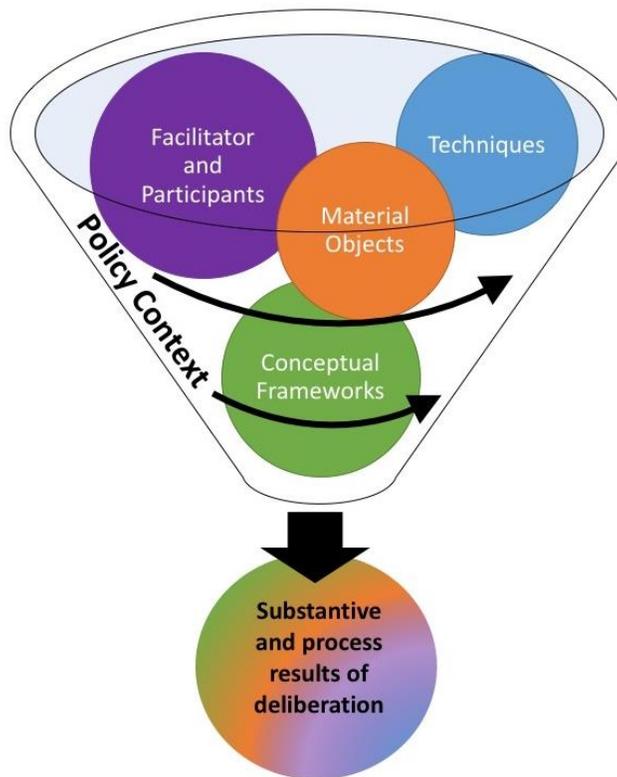


Figure 1. Deliberative technologies emerge from dynamic interactions among techniques, material objects, conceptual frameworks, facilitators and participants, and the policy context.

Figure 1 is a visual representation of deliberative technology. It is non-linear because this holistic lens draws the elements and stages of design and enactment together. It brings attention to the dynamic, emergent nature of the interactions that occur throughout the planning, implementation, and adaptation of deliberative events and processes.

Figure 1 also highlights a typology of some typical elements of deliberative method – techniques, material objects, and conceptual frameworks – which, when applied in particular contexts, create the distinct dynamics of co-production. Yet, these methodological components are only part of the picture. Integrating these pieces through a deliberative technology lens illuminates how methodological resources, policy contexts, and relationships among facilitators and participants interact to create any substantive or process results of deliberation.

From Deliberative Methods to Deliberative Technology

Public deliberation involves a variety of topics, methods, and settings (Bryson et al., 2013; Carpini et al., 2004; Nabatchi et al., 2012; Roberts, 2004). For example, there are important variations in whether the deliberation involves the general public or a small group of invested stakeholders. Deliberative processes may involve consulting with people to gather their preferences on a policy issue that others will decide or vesting decision-making and implementation power in them. What unifies the various forms of deliberation - and distinguishes them from other forms of democratic decision-making - is that they are semi-structured processes focused on exploring the problem, presenting and critiquing arguments, and evaluating options for policies or programs to address the problem (Gastil, 2000). All three cases in this study have these features.

Under this broad umbrella, many distinctive features of particular deliberative processes and events shape their course and outcome. One prominent explanation of results of deliberation focuses on the performance of the people involved, including whether facilitators are neutral and competent (Nabatchi et al., 2012; Schwarz, 2002) as well as the level to which participants utilize reason and evidence to drive arguments and solutions (Gastil & Dillard, 2006). The speed and sequencing of the process are also important (Bryson et al., 2013; Hoppe, 2011). Political features of the context are often relevant, including the legal structures within which the deliberation is occurring (Brody et al. 2003), whether the participants are expected merely to be informed of or to shape decisions (Quick & Feldman, 2011; Thomas, 2013), or the structural conditions shaping the level of legitimacy given to decision-making (Young, 2000). Features of the specific problem are also significant, including the extent to which stakeholders consider the problem area important (Kingdon & Thurber, 1984), and whether it is a routine or emerging problem (Rowe & Frewer, 2004).

While scholars assert that these features of the deliberation context are all important for good design and outcomes, in practice, practitioner training and professional development often still stress a single dimension of deliberation: the

techniques and methods to manage the dialogue. In fact, there is a complex, non-determinative relationship between methodological choices and outcomes in deliberative events. Because the message that methodological choices are central is so commonplace, despite being deeply problematic, it is important to reorient the discussion to the more holistic lens of deliberative technology.

Reframing Technology

To reorient attention from deliberative methods to deliberative technology, we also need to reframe technology. “Technology” is commonly understood as the hardware and software supporting all kinds of social interactions and information communication. Among scholars, the proliferation of social media and advances in new information technology have inspired a wave of investigations, focused largely on describing how these new tools are being deployed (Afzalan and Muller, 2014; Diamond, 2010; Evans-Cowley & Hollander, 2010; Slotterback, 2011) or their efficacy (Macintosh & Whyte, 2008). While this attention is useful, the expansive concept organizational technology brings information technology tools and other resources into an integrated frame for viewing how they are used in deliberative processes. Pfister and Godana (2012, p. 2) made a similar move of recommending a broader conceptualization of technology in deliberation. In a play on the term “liberation technology,” they suggested that democratic social movements and building civil society requires “deliberation technology” to encourage “not just information circulation, but discussion and debate.” As we do here, they identified a broad array of elements by suggesting, “Deliberation technologies focus not just on the hardware of communication, but on the software and the practices that support a broad-based conversation among affected citizens.”

Deliberative Resources

By integrating theories about organizational technology into how we define deliberative technology, we focus attention on how resources are assembled to enact deliberative processes and generate results. An important premise is that resources, rules, and objects are given meaning as they are brought into use in particular contexts (Feldman, 2004; Orlikowski, 1992). Thus, deliberative technologies are rarely stable and predictable; they are created dynamically as facilitators and participants bring elements into practice in particular contexts.

To think systematically about a broad array of elements and dynamics that constitute deliberative technologies, we reviewed the literature and analyzed our

ethnographic observations of deliberative events. We then created this typology of three general kinds of resources used in deliberative processes.

Engagement techniques are obviously essential. Lee's (2011) extensive analysis documents that practitioners see the existence of many techniques as proof of innovation in the public deliberation field. And, there certainly is a wide array of approaches, such as deliberative polls, citizen juries, online competitions, dialogue circles, 21st-century town meetings, open space technology, and World Café (Baldwin & Linnea, 2010; Bingham et al., 2005; Brown & Isaacs, 2005; Owen, 1997). Again, many training activities focus on teaching practitioners how to understand and deploy particular techniques. And, while there is considerable variety, research suggests there are significant pressures for practitioners to standardize their approach through trainings and credentialing programs, often advocated by a particular developer (Jacobs et al., 2009; Lee, 2011).

Material objects both support interactions and document results. Material objects can include the physical setting, supplies, and products. Deliberative practitioners often pay considerable attention to selecting and preparing the physical setting. The accessibility of the space, light in the room, and arrangement of chairs and tables are all props on the deliberative stage that are potentially significant for the process of deliberation that unfolds. Practitioners often come with butcher-block paper, colored markers, sticky notes, or hand-held bells as inputs to the technological process (Girard & Stark, 2007). Material products also document what comes out of a deliberative event. Visual models, meeting minutes, or graphic reports become records of what occurred, documenting what participants learned, or the progress being made. Sometimes these materials alter subsequent events, for example, by inviting deeper engagement around particular issues of concern or consensus, or conversely by constraining further work on what is not included in the official record of the event.

Conceptual frameworks offer models or schema for practitioners to structure their planning and to interpret what is unfolding during a deliberative event. Conceptual frameworks can be tactical, as when they support understanding and navigating group dynamics through offering heuristics, such as forming, norming, storming and performing (Tuckman & Jensen, 1977). They may also represent worldviews or stances towards an overall approach to problem-solving or group work. For example, the Australian Citizen Parliament used appreciative inquiry (Cooperrider & Whitney, 2000) as an orienting stance for a deliberative gathering, which researchers found to significantly shape the process and result (Curato et al., 2013).

Research Methods and Field Setting

Our research approach used ethnographic methods to construct a thick account of deliberative processes in three field projects. Our data sources include participant observation, extensive field notes, facilitator guides and other materials used to guide the deliberations, semi-structured interviews with facilitators and participants, and other records (minutes, photographs, policy documents, etc.) from the deliberative processes. These case studies are also situated in the context of a broader study about how facilitators learn and deploy certain techniques, so the current paper is also informed by fieldnotes, training materials, and interviews regarding training in the Art of Hosting Conversations that Matter, which all of the facilitators in these three case studies had done (Quick & Sandfort, 2014.)

To pursue our interest in how deliberative technology is enacted, here we compare the process and results from three cases that shared a number of commonalities. However, early in our data analysis, the divergences among them caught our attention. The common resources, policy settings, and process goals of the three case studies, combined with a shared general approach to organizing deliberation, provide an excellent foundation for studying how similar resources and goals played in out in very different ways.

Field Setting & Case Selection

In this study, we took advantage of the investment in large-scale training in a particular deliberative approach across one state. The particular approach is called the Art of Hosting Conversations that Matter (hereafter, the “Art of Hosting”). While the Art of Hosting resembles other approaches to deliberation, it is a particularly apt context for this research in several ways. First, trainees learn a range of engagement techniques to enable high-quality conversations, including circle process (Baldwin & Linnea, 2010), Open Space Technology (Owen, 1997), World Café (Brown & Isaacs, 2005), and appreciative inquiry (Cooperrider & Whitney, 2000). Second, it transparently involves participants (Wheatley & Frieze, 2011). The Art of Hosting orients practitioners to co-production, such that hosts and participants work together in deliberative projects to shape the content and process. Third, while the approach draws upon a standard set of techniques, one of its hallmarks is training which encourages practitioners to customize it to particular settings (Quick & Sandfort, 2014). To encourage ongoing learning and adaptation, it encourages practitioners to work in teams to design, respond to emergent dynamics, and debrief.

Like promoters of all deliberative approaches, Art of Hosting practitioners assert there are numerous benefits of their work, including supporting more efficient processes, enhancing relationships, increasing participants' satisfaction and commitment to implementation, and producing higher-quality decision results (Quick & Sandfort, 2014). Yet, these aspirations are not realized in every deliberative event or process, including in the three cases we analyze here.

This makes the three cases a rich foundation for theorizing differences in how closely related deliberation styles are enacted. Among many candidates for this comparative analysis, we selected these cases because of three commonalities:

- *Shared set of resources*: All facilitators went through the same three-day training in facilitation methods, and thus had access to a shared set of techniques and conceptual frameworks. We exploit access to this shared toolkit to observe how the resources are deployed in particular combinations and settings. Notably, training participants later had good recall of the techniques and conceptual frameworks, and 89 percent considered the training to have been useful to their practice (Quick & Sandfort, 2014). Thus, we anticipated that the facilitators in these case studies had good access to the same available resources and had a positive attitude towards them; our subsequent data collection confirmed those assumptions.
- *Shared features of setting*: All the deliberative processes concerned the structure and effectiveness of public service systems and focused on explorations of system redesign. All involved professionals and citizens from intentionally diverse perspectives. They occurred in a single state in the Midwestern United States (Minnesota), and each used public or philanthropic funding.
- *Shared set of purposes*: The sponsors of these deliberative processes had a set of goals in common. They all believed that the deliberative process could support systems redesign, build relationships among participants, and develop innovative solutions.

Of course, in spite of these similarities, there were important differences as well. The deliberative processes varied in substantive policy topic, the politics surrounding the events, and scope of engagement. These factors provide the larger context within which a particular deliberative event or process must be designed (Bryson et al., 2013; Nabatchi, 2012). Our purpose is not to explore the influence of these features on deliberation, but rather to delve into the enacted process to reveal what can be learned about bringing deliberative technology into use.

Ethnographic Research Methodology

In the tradition of other deliberative scholars (Hajer & Wagenaar, 2003; Lee, 2011; Mansbridge et al., 2006), we relied upon ethnographic data and analysis to shed light on how processes to advance collective action are dynamically crafted. We utilized multiple data-collection methods to construct a thick account of the settings, a key foundation for the validity of interpretive research (Geertz, 1973; Lin, 1998; Schwartz-Shea & Yanow, 2013).

First, we conducted semi-structured interviews with 30 people from the three cases, between two and eight months after the conclusion of the deliberative events. We interviewed participants (people invited to attend and contribute in these processes), sponsors (conveners), and facilitators. In the interviews, we probed the nature of the engagement design, implementation, and results. We audio-recorded the interviews, summarized them, and used NVivo for thematic coding. All individuals are identified here by pseudonyms.

Second, in two of the cases, members of the research team were participant observers. In the third, we viewed videotapes of the engagement processes. These sources of data were incorporated into the NVivo database.

Third, having been trained with the facilitators studied in this paper, we employed our participant-observer position to identify and problematize the logics and practices in use in this community (Fortun, 2001; Marcus, 1998). We enhanced the validity of our analysis by intentionally sustaining some skepticism about the claims made by trainers regarding the impacts of their work.

We analyzed these data inductively, using thematic coding in a grounded theory development process through iterative analysis that engages relevant concepts from the literature (Glaser & Strauss, 1967; Schwartz-Shea & Yanow, 2013). Through multiple, iterative rounds of data collection, analysis, and literature reviews, we fleshed out patterns and themes. To enhance reliability, we had multiple members of the research team independently conduct data analysis, carefully examined the convergences and divergences in our interpretations, and considered alternative interpretations (Adcock & Collier, 2001). We looked at an array of factors present in the cases before narrowing in on the significance of techniques, material objects, and conceptual frameworks and doing comparative analysis of particular instances.

This systematic analysis led us to articulate deliberative technology as an integrative lens useful in helping practitioners better understand the application of resources as well as the dynamics between and among facilitators and participants

in deliberative projects. Again, while it is not surprising that similar techniques can be associated with very divergent results, practitioners and scholars do not necessarily have a lens or language for organizing the observations, thoughts, and surprises that occur in implementation.

Case Studies

In the following accounts of the data, we reveal the deliberative technologies in these cases and show how the deliberative technology framework is applicable in multiple settings. For each case, we describe the activities and design of the process, paying particular attention to the deliberative techniques, material objects, and conceptual frameworks that were used. We then briefly describe the results in terms of policy or management decisions that were reached and reflections by the study participants on how the deliberative methods played. We focus on how particular components of the technology were used in relation to the cases' goals and results, summarized in Table 1.

Local Government Innovation

Our first case engaged government officials across the state in a series of discussions about sustaining a wide range of public services at the local level. Undertaken during significant shortfalls in the state budget resources that typically provide a large share of the funding for local service delivery, it was believed the meetings could spark dialogue about potential solutions to the local operational challenges. State legislators had created a bipartisan Redesign Caucus, which, by working with other groups, secured local foundation support. Together, these groups identified several goals for the proposed meetings: alleviating gridlock through enabling the exchange of ideas about collaboration already happening; generating political momentum and legitimacy for state support of local government; and strengthening relationships and trust among all kinds of local elected officials. The sponsors approached and hired Cindy, a facilitator with whom some of them had worked before, and who was trained in Art of Hosting. She led the design, which incorporated extensive outreach to invite participants, a brief informational presentation, and a form of World Café discussion. Six meetings were held around the state, involving more than 400 staff and elected officials.

Table 1. *Goals and results of deliberative processes in study cases*

	<i>Local Government Innovation</i>	<i>HIV/AIDS Field Realignment</i>	<i>Resilient Regions Planning Process</i>
Sponsors' Goals	Exchange information about, inspire, and publicize local government innovation; Strengthen political momentum and legitimacy to preserve state funding for local government; Build relationships among local government officials.	Enable leaders in the HIV/AIDS sector to build trust, connections, and knowledge; Consider needs of the field; Explore strategies for system change and realignment of the field.	Produce a 25-year strategic sustainable development plan for the region; Break down silos to enable integrated approaches to social, economic, and environmental domains; Create a grassroots-driven, inclusionary process so that the participants could “co-create” significant change through shared learning, discovery of converging views, and commitment to action.
Results	Legitimated local governments' capacity to innovate to state policy makers through the glossy final report. No shared sense of ownership among participants.	Aligned activities among participants, including centralized client intake, policy advocacy tactics, joint funding proposals, and email list-serve. Equalized some knowledge of systems-change and systems-level issues. No consensus on next coordinated steps of larger systems redesign.	Implemented new region-wide projects consistent with goals: homeless shelter, trails, and transit options. Created sense of momentum, understanding, and shared ownership among most participants who held significant ideological differences.

Each meeting followed a pre-established agenda. Participants were assigned to tables to bring together people from different organizations. After the sponsors encouraged them to “courageously consider redesign,” the small groups shared a meal and introduced themselves by describing the value of their own pathway to public service. After a presentation by the state demographer about economic and demographic changes in the state and the urgency and significance of the evening’s work, the groups began a dialogue. They first brainstormed public services or programs that could be redesigned and then explored opportunities for

implementing change. Facilitators supported each table. They were given written ground rules for civil dialogue, detailed agendas and discussion questions, and explicit direction about the forum's purpose. Because of time and logistical constraints, Cindy modified several typical features of the World Café technique for these discussions, notably by having participants stay at their tables instead of re-mixing into new groups. Cindy assigned a note taker to each table to document the conversation using written templates provided by the facilitation team; participants were encouraged to jot notes or draw on large paper with markers.

Results. Afterwards, the meeting sponsors created a number of products. One was a glossy report that highlighted some examples of public service innovations that participants had shared. The report asserted that through creating “spaces to build and strengthen relationships among local government leaders,” the process had unleashed insight about how redesign is necessary in the current political environment. In the minds of the sponsors whom we interviewed afterwards, this process was a significant improvement over past approaches. They described it as a more “open” format than classic facilitation because it provided “respondents the opportunity to answer however they would like to answer as opposed to a more directed approach that might ask a very specific question.” The report was used at a press conference and posted on a new webpage the sponsoring government created to focus on innovation and redesign. The webpage included two five-minute videos that framed the topic and showed footage of the interactive process at the gatherings and interviews with officials about the challenges of innovation.

Uniformly, the sponsors and facilitators whom we interviewed asserted that the primary purpose of the gatherings was building relationships and trust across jurisdictional boundaries so that leaders could learn from each other. They observed that mutual learning had occurred. Sponsors, facilitators, and participants reported enjoying interacting with others with whom they typically did not have a chance to exchange ideas. Yet, some reflected that actually building more durable relationships across jurisdictions would take time. One participant reflected, “I don't think the [sponsors] realized what the turf issue was and how strong it is. People say we should work together, but it just never happens.” Others expressed similar impressions about the outcome of the deliberative process.

Participants whom we interviewed generally appreciated the opportunity to share problem-solving strategies with other people in local governments, and to have a chance “to dream and to be idealistic.” But the execution of the techniques for stimulating dialogue, creating material objects, and drawing upon the conceptual frameworks offered by Art of Hosting did not yield the results participants

desired. The Art of Hosting training places great emphasis on creating material artifacts (notes, reports, photographs, etc.) that harvest the content and tone of the gathering in a way that feels familiar and usable to the participants. In contrast, the people we interviewed did not feel attached to the report and videos that were produced. At a deeper level, others wondered about the strength of the outcomes they had generated. One city council member, who had appreciated how the deliberative process was implemented at the gathering, still registered skepticism about the long-term consequences, observing, “The only problem is with the brainstorming and the ideas and everything, with personnel and financial resources lacking, are the agencies able to even do some of this stuff? Or was it sort of a gathering in futility?”

When we interviewed more seasoned facilitators who had participated, they expressed that there were some limitations in the implementation of some methods. Specifically, the World Café technique was not implemented with fidelity. In addition, the Art of Hosting approach to co-hosting was not realized. Ideally, the table facilitators would have participated in developing, adaptively implementing, debriefing, and refining the process as a team (Quick & Sandfort, 2014). Some had been told there was an intention to support this co-hosting model. In actuality, a single consultant (Cindy) instead designed the process to be consistent for all six statewide meetings and straightforward enough to allow a rotating group of pre-trained facilitators to quickly pick up and implement. It was not open to adaptation and modification by the facilitators or participants.

HIV/AIDS Field Realignment

Our second case also involved the redesign of public services. When HIV/AIDS erupted as a public health crisis in the U.S. in the early 1980s, nonprofit agencies began developing to advocate for more responsiveness and to help people die with dignity. In recent decades, advances in prevention and treatment have significantly reduced disease transmission and enhanced survival, changing the service needs of infected people. When the state nonprofit association offered an opportunity to explore service redesign, four leaders of HIV/AIDS service providers stepped forward to convene a strategic conversation about realignment of their field. They worked with three people trained in Art of Hosting practices to develop significant questions and decide on the engagement techniques to use for a multi-day gathering. They invited participation from advocacy and service nonprofits, health care providers, state and local government agencies, and some of their clients. Ultimately, 26 people attended the gathering.

The first day focused on building relationships among this diverse group and planting ideas for change. The meeting began with a gathering using the circle process technique. Seated in a circle, over 90 minutes each participant took a turn sharing a concrete object and story that represented what motivated him or her to work with persons with HIV/AIDS. On the first day, a host introduced the conceptual framework of convergence-divergence. Other activities focused on co-creating a timeline of key moments in the field, working in triads with briefing documents about policy and fiscal issues, and small group World Café conversations about possibilities for field redesign. The next two days were structured by another technique, Open Space Technology, in which the participants decided the topics for small-group sessions in response to critical questions.

Throughout, participants were encouraged to help guide the process. Sometimes this took the form of naming needs. For example, when participants asked for clarification about realignment of the field, the hosts invited a guest to share a research-based diagram that laid out a spectrum of realignment options used by nonprofits. At other times, this took the form of actively shaping the environment, momentum, and learning in and from the meeting. For example, the hosts solicited volunteers for a team to focus on maintaining the space and beauty of the setting and a “harvesting team” to document activities and results. Encouraged to be creative with their methods, that team made a large drawing of a human figure. As people told stories about their interactions with their clients, the harvesting team placed key words on the figure to help capture the stories and symbolically bring the service recipients into the room. On another occasion, the participants used red yarn to construct a web to represent the network of HIV/AIDS providers, funders, and clients present (See Table 2 for a more detailed description).

Results. Some results of the initiative were already becoming evident on the third and final day of the process, which occurred 10 days after the second day of meetings. The day began with a check-in on the action steps people had identified at the last gathering. One group had talked about creating a consolidated, centralized client intake process to enable better inter-agency coordination and service; a public manager from the lead state agency reported already beginning to implement this idea. Responding to an expressed need for training on coping with stigma, another participant invited others to a relevant training being held at her agency. Another had organized an advocacy meeting with legislators, which he offered to reschedule to allow anyone interested to participate.

A month after the gatherings, the harvest team and hosts sent out a colorful newsletter. In addition to discussion highlights, it incorporated evocative photos of the interactions, including the yarn network and the story harvest recorded on

the hand-drawn figure symbolizing a client. Participants whom we interviewed affirmed the usefulness of those objects in facilitating conversation and providing a memorable visual of what they had done together. They indicated that other objects, such as the briefing materials on policy and finance, and the realignment spectrum, had enhanced everyone's knowledge and created a common base that enabled all to engage in system-level discussions. They used the conceptual model of convergence-divergence, introduced during the deliberative process, to explain their overall assessment of the event.

Some coordinated actions emerged from the ideas and relationships fostered at the events, such as joint funding applications, policy advocacy coordination to heighten legislators' awareness of their highest priorities and shared concerns, and the development of a centralized client intake process. A new email listserv was created to support the potential of sustained connections. Yet, these tactics fell far short of the larger goal of considering needs and opportunities for new networks or models to address fundamental changes in client needs and the new context of the HIV/AIDS services field. During interviews, people recalled how the group struggled for large, clear action steps. The gatherings had focused their attention on clients' changing needs and generated "really good questions," helping the field to "start thinking innovative and big." However, participants also left feeling uncertain about how change might happen, its implications for their organizations, and whether they could "keep connected and moving forward" once the deliberative process ended. One service provider reflected:

While the introductions [using the circle technique] were clear and powerful, during the small-group time, things fell back to 'business as usual.' There wasn't a lot of intervention happening in those groups. I think the techniques needed to make us feel *uncomfortable* for a while, by getting things out in the open. Then, real solutions could [have been] accomplished.

In the end, because the powerful interpersonal connections were not leveraged, system-level change was not created. Virtually all participants were reluctant either to consider substantial service redesign or to challenge their relationships with government agencies on which they depended for fiscal, political, and policy support.

Resilient Regions Planning Process

The final case documented the creation of a 25-year regional sustainable development plan for five rural counties. Facing challenges from the economic

recession, elevated unemployment, eroding natural resources, and out-migration, the sponsors felt urgency to forge new approaches by breaking down the “silos” separating government agencies and other stakeholders. The deliberative process originated with the regional Economic Development Commission (EDC), a public agency whose executive director engaged others to apply for resources from the new federal Sustainable Communities Initiative. The organizers dedicated two years for engagement to launch the implementation. Rather than just create the plan, they wanted it to be “grassroots-driven” and “inclusionary.”

The community received a sizable grant drawing upon resources from several federal agencies, and ultimately involved hundreds of people in creating the regional plan. Just five weeks before the initial kick-off meeting, the core team of facilitators (Karla, Mark, Nate, and Ken) attended an Art of Hosting training. That experience profoundly changed the way they envisioned and organized the engagement process. Karla later reflected on the kick-off meeting with the community, “Much of my speech was literally ... taken from the Art of Hosting workbook!” The facilitators transformed themselves into hosts, incorporating a variety of techniques, conceptual frameworks, and material objects from their hosting training throughout the planning process. They also developed a robust structure focused on engaging various stakeholders, including introducing procedures to ensure proportional representation of typically marginalized groups. The 220-member consortium met five times as a whole, interspersed with four sessions in which thematically defined work groups focused on key issues. Most meetings were held around small, round tables to allow people to talk intimately. The work groups intentionally combined people with specialized knowledge of the topic with others having a more general interest in it.

At the first large consortium meeting, everyone was asked to write down one word about what they hoped for from the process. The facilitators subsequently created a visual word collage, reflecting the frequency of each word expressed; this object became a reference, to remind participants what was important throughout the process. The facilitators were resistant to using many formally prepared materials, suggesting that:

PowerPoints and pamphlets and data dumping, instead of storytelling and gathering the information from the people in the room, is not co-creating anything. If we’re really trying to create change, co-creation is the way to go.

The facilitators also used conceptual frameworks. In the opening speech, the EDC director acknowledged the necessity for orienting the participants to the work, to

enable them to make sense of a complex process in which some phases would be difficult but productive if they could persist. Karla explained:

In our very first kick-off, there were 200-plus people in the room from all over the region. I had five minutes for an opening, [I said] “This is a distributed leadership opportunity; we are going to co-create this. We are going to walk through ... a groan zone....” The facilitators and other people picked up on that right away. They referred back to it in the work-group settings, where they'd say, “Well, this must be that groan zone part, 'cause I'm not digging this right now.” I brought it up intentionally right away...if you've got just one meeting, it doesn't matter. But if you've got a large project, [it can be helpful] to acknowledge.

The facilitators explained in interviews that simply bringing people with diverse perspectives into the room or even making sure each individual voiced their opinions would *not* accomplish the results they desired. Instead, they designed the deliberative process to simulate cross-fertilization and exchange of ideas. At the consortium-wide meetings, they included reports from the work and small-group planning and World Café for analysis. They also incorporated other techniques, including Open Space Technology and circle process, to respond with an appropriate engagement format to the presenting issues.

Results. At the conclusion of the planning process, sponsors created a video featuring six ideologically diverse participants sharing what happened through the process. Implementation of the plan began immediately. The first small but significant changes included private employers pooling resources to build a homeless shelter, the creation of trail projects developed at military training facilities, and a new transit service to connect two community college campuses.

Several months after the process concluded, facilitators offered accounts of how participants were applying the new relationships, insights, and learning to other aspects of their lives and work, in addition to concrete policy and program results. Several participants attested to the value of the word cloud collage as a reference point for the process. As a participant who was a building contractor told us, it provided “cohesion” among the people to see what they were collectively hoping for and enabled a chance for everyone to contribute, because “Everybody's voice was in that collage.” They also emphasized the value of the World Café approach, saying that the cumulative questions, small-group discussion, and lots of cross-fertilization of ideas produced a sense of momentum, connection, and ownership. Describing the work group he assisted, Ken, a host, observed:

Using Open Space Technology and World Café is helping people understand they are not as far apart as they seem to think they are [or] as you've been told; they start to understand that there is more commonality. That's been the benefit in facilitating conversations and letting them talk to each other, and solve their own problems, work through some of these issues, and create recommendations together. In a typical approach, where we just did lecturing and nobody spoke to each other, they wouldn't see how close together they were.

Yet, the technology of this deliberative process did not create universally positive feelings and impressions. We learned from interviews that for some participants, the open-ended flow, from work group to consortium and back, without a clear set of decision points at each step, was disconcerting.

Using Deliberative Technology

These cases illuminate how deliberative technology is brought into use and suggest some ways in which scholars and practitioners might use deliberative technology as a holistic lens for interpreting and shaping deliberative processes. Certainly, the cases illuminate the well-recognized dynamic mentioned in the opening of the paper, namely that using the same deliberation techniques, in different contexts, does not have predictable impacts (Karpowitz & Raphael, 2014; Lee, 2014). Beyond that, however, they shed new light on *how* the different outcomes emerge. To demonstrate how the lens of deliberative technology provides more systematic insight into deliberative settings, we begin by probing the particular deliberative resources – the techniques, material objects, and conceptual frameworks – used in *all* three cases. Table 2 summarizes these common, shared deliberative resources, which we compare to make sense of their different outcomes.

Table 2. Deliberative resources in use across all deliberative process case studies.

	<i>Local Government Innovation</i>	<i>HIV/AIDS Field Realignment</i>	<i>Resilient Regions</i>
Commonly Used Techniques			
World Café: This technique for opening discussion of a topic encourages lots of participation and exchange. It occurs as a series of dialogues around café-sized tables of four to six people. Participants work through a set of questions, which shift from a foundational question to a narrower scope. With each new question, they move to a new table to cross-fertilize ideas and interact with many people. Participants use markers and paper arrayed on the tables to make notes, sketch, and find connections among the emerging ideas. One individual at each table stays and welcomes the new group. World café concludes with a full-group discussion of key ideas or questions that emerged. (Brown & Isaacs, 2005.)	Limited fidelity to ideal World Café model, because participants did not move between tables to cross-fertilization of ideas.	Used with full fidelity to ideal World Café model.	Used with full fidelity to ideal World Café model.
Commonly Used Material Objects			
Setting: The intentional preparation of the meeting space is an important method in deliberation. Facilitators learn to arrange rooms, integrate food, and attend to “space and beauty” to create a meeting environment conducive to deliberation. Agendas are shared in large, artistic posters, and music, flowers, and visuals are used to create an unexpected, generative environment.	Setting included a shared meal, socializing, and facilitated dialogue at round tables.	Setting included a naturally lit, open room and outdoor space. Participants’ “space and beauty” committee created a welcoming environment. Artistic landscape of agenda was posted on wall.	Setting included meals, socializing, and facilitated dialogue at round tables. Always met at same, pleasant facility. Dialogue guidelines and results from prior meetings were posted around the room.

	<i>Local Government Innovation</i>	<i>HIV/AIDS Field Realignment</i>	<i>Resilient Regions</i>
Documentation of events: Documenting can take many forms, including photographs, drawings, personal journaling, songs, or visual minutes, as well as more conventional minutes and other records. Frequently hosts invite participants to form a team to document what occurs.	Glossy report and videos promoted the message about local government needs and successes. They were not created or embraced by participants.	A 5-page newsletter featured photos of interactions and synopsis of decisions. Novel objects assisted the unfolding work and were memorable (e.g., briefing documents, yarn model of network, drawn human form to capture stories).	Novel artifacts (e.g., word cloud) provided cohesion and voice. Ongoing notes, a formal plan, and videos about the process were produced.
Commonly Used Conceptual Frameworks			
Hosting: Hosting practitioners are trained to actively de-center their authority and invite the participants to co-produce the process and results. Hosts' role is to "hold the space" for the group to do its work, observe and interpret the unfolding process, and draw flexibly upon various resources to help guide it.	Not implemented. Facilitators led participants in pre-determined format.	Implemented. Hosts adapted the process to support emergent needs (e.g., inviting a guest to provide needed content). Participants used Open Space Technology to name and organize their work into key topics. Hosts attempted to facilitate a process to enable creative, emergent realizations and options for systems change.	Implemented. Hosts determined overall design, but used open space, World Café, and harvesting so that participants generated their own topics for subsequent discussion and action plans.

	<i>Local Government Innovation</i>	<i>HIV/AIDS Field Realignment</i>	<i>Resilient Regions</i>
<p>Co-hosting: Practitioners prefer to work in teams both to capitalize on individuals’ strengths and sustain the emergent deliberative process. The ideal co-hosting routine includes gathering before the event to design it loosely and debriefing afterwards to support individual practitioners’ learning and to improve the subsequent steps of the process. During the event, co-hosts take complementary roles of actively hosting and observing, and work together to guide and interpret the unfolding group dynamics, consulting with one another to improvise and adjust as appropriate.</p>	<p>Not implemented. Majority of facilitators were trained in hosting, but a single lead facilitator set the process. It was not dynamically co-produced by facilitation team. Other facilitators were not involved in designing, were not permitted to improvise or adapt implementation, and did not debrief.</p>	<p>Implemented. The hosting team designed, adapted as they went, and debriefed and reframed next steps.</p>	<p>Implemented. The hosting team designed, adapted as they went, and debriefed and reframed next steps.</p>
<p>Divergence-convergence: A conceptual framework practitioners use to make sense of group processes. Resembling other formal theories of group dynamics, it is presented in an intuitive way, frequently through a diagram showing three typical phases: an initial phase of many divergent ideas; a “groan zone” (Kaner, 2007) when they are overwhelmed by abundant information, indecision, or conflict; and a period of convergence among choices about the most appropriate actions.</p>	<p>Not used, either by hosts or participants.</p>	<p>Used heavily by hosts (e.g., to attempt to prompt convergence around system redesign). Referenced by participants to describe the deliberative process, but not used by them to change their system. Convergence on system change not accomplished.</p>	<p>Used heavily by hosts and participants. Hosts explained concept at outset to participants, who used the “groan zone” to interpret and get through rough spots. Hosts chose techniques to facilitate divergence and convergence.</p>

Bringing Deliberative Resources into Use

As summarized in Table 2, there are commonalities in the resources used but variation in how they were used. One might conclude that the variation in the results of the deliberations resulted from variations in how well, or properly, or intensively, a particularly resource was used. But that would be only a partial explanation. Timelines are an important differentiator among the cases. The HIV/AIDS and Resilient Regions deliberative processes brought participants together for several hours at a time, repeatedly, over an extended period for analysis and discussion. Greater time – to permit reflection and in-depth work – does seem to support opportunities for systemic change, as the literature suggests (Bryson et al., 2013; Nabatchi et al., 2012). Again, however, this is only a partial explanation of the different courses and outcomes of the cases.

The more powerful explanation comes not from *which* potential resources were used, but rather from *how* they were used. The techniques, material objects, and conceptual frameworks interacted and became different kinds of resources, to create the enacted deliberative technologies.

Thus, the methods available to facilitators – the techniques, creation or deployment of material objects, and the conceptual frameworks – are better conceptualized as *potential resources* than as formulas or failsafe approaches with predictable consequences. The utility of any one method is not fixed, but rather depends upon how it is brought into use by facilitators in each particular instance and interacts with other resources and features of the context (Feldman, 2004; Howard-Grenville, 2007; Sandfort, 2013). The methods must be selected from potential resources, in particular combinations and intensities appropriate to the context. The nuances that determine their appropriateness to a context cannot be predicted. Nor can their impact, once they are in play, be predicted. Ultimately, nothing is fixed: deliberative technologies influence their own conditions.

The use of material objects across the cases illustrates how deliberative resources are brought into use to create deliberative technologies, and how the lens of deliberative technology can be used to interpret and shape deliberative settings holistically. Material objects often act as what other scholars of deliberation have characterized as “boundary objects” (Feldman & Khademian, 2007; Star, 2010) because they help participants play with solutions or provide visual traces of emerging ideas or decisions made. Like any part of deliberative methodology, however, an object does not inherently do that kind of boundary work, nor does it inherently produce a “good” or “bad” impact. Instead, its impact depends on how it is brought into use, and how that aligns with what the facilitators mean to accomplish.

Reference materials are a good example. The Resilient Regions hosts determined that “PowerPoints and pamphlets” would not “co-create” knowledge and action in the ways they wanted for their process. In contrast, the HIV/AIDS field realignment effort used handouts to fuel reflective dialogues on the state of their field. In the first instance, facilitators viewed handouts as static mechanisms for uni-directional information transmission, but in the second, they were enlisted as boundary objects to ground and spur dialogue. This distinction underscores that, although commonly recognized tools of the trade, these objects do not have *intrinsic* importance or consequence. Rather, material objects become significant artifacts when they are used to alter relationships and results (Latour, 2005).

The alteration of relationships is key, which brings us to the final element of the model of deliberative technology presented in Figure 1: *Interactions of participants and facilitators with each other and with other features of the context*. By their design, deliberative processes can be considered “people-changing” technologies (Hasenfeld, 1983). They are focused on altering the minds, attitudes, and actions of participants through dialogue and engagement. Many deliberative processes evoke the ideal of co-production (Bovaird, 2007; Denhardt & Denhardt, 2000), in which facilitators and participants co-develop the questions for deliberation, the process, and the results. So while the processes are designed to affect substantive issues, such as innovation in local government program delivery, HIV/AIDS service systems, or regional economic development, they also intend to influence participants’ own sense of agency. In this regard, deliberative processes are seen as a way to support democratic ideals for sharing authority, build individual and collective deliberative capacity, and facilitate emergent decision-making (Quick & Feldman, 2011; Roberts, 2004). The Art of Hosting approach uplifts this aspiration. However, just because facilitators intend to co-produce a process, it does not mean that it will be co-produced. Inclusive co-production also requires participants to recognize and make use of their agency to shape what occurs and what results (Quick & Feldman, 2011).

As illustrated by these cases, participants’ own agency – their attitudes and opportunities for influence – does play a part. Sometimes participants engage fully, owning the process and what is created, and at other times they engage up to a point, undertaking only minor follow-up actions, such as setting up list-serves or new operational routines. At still other times, they are more passive. Participants observe various techniques, discussions, and social dynamics, and they interpret them to draw their own conclusions about their legitimacy. When reflecting about a deliberative event or process, they consider a variety of issues: Were the right questions asked? Was sufficient time spent to make them comfortable with other participants? Were the sources of power in the room interrogated? If participants feel their agency is confined, and they do not have

much power to guide the process or results, they may exit the process or simply go through the motions. Afterwards, even if a good conversation occurred, things did not change much, meaning the deliberative process was not successful as a people-changing technology. In the words of one of the Local Government Innovation participants, such a process may be “a gathering in futility” if substantial change is sought.

While facilitators’ skills do shape the way deliberative methods are brought into use, how participants respond also shapes the enactment of the overall deliberative technologies and their consequences. In the HIV/AIDS case, for example, the facilitators demonstrated high competence. They prepared and delivered the methodological makings of a co-produced process that could have supported movement towards field-based systems change. But, deliberative techniques, concepts, and materials meant to unleash participants’ agency and ability for joint problem-solving for field redesign did not accomplish those goals. The deliberative resources could not neutralize the power dynamics present among participants, which included differences of racial and positional authority and funding dependencies. That circumstance created a conundrum: sponsors and facilitators had meant to create an inclusive, co-productive environment, while participants did not experience the deliberative technologies as significant enough to change the established social patterns in the policy context in which they operate. The Resilient Regions case had different results where the deliberative technologies were constituted with participants with divergent ideologies. Working over time, in incremental steps, the deliberative technologies were people-changing (Hasenfeld, 1983). They led to a shared understanding of redesign that was captured in the formal sustainability plan and used to guide regional investments in the years ahead.

Analysis of these cases lead to a generalizable conceptual model – the holistic lens of deliberative technology – represented in Figure 1. Facilitators draw upon and bring into use deliberative resources, such as engagement techniques, material objects, and conceptual frameworks. Yet, the deliberative technologies of a particular deliberative process are also directly shaped by the actions of participants, namely how they react to, understand, and engage with what facilitators offer.

Conclusion

Analysis of the three cases enabled us to articulate the concept of deliberative technology as a holistic lens into how facilitators and participants bring different resources into use in the emergent dynamics of deliberative processes. Here, we

highlight how it can be used to help interpret and shape deliberative processes in practice and to improve our theories.

While facilitators engage in many important design choices when planning group processes, those choices are merely inputs to effective deliberative processes. The lens of deliberative technology brings into focus ways in which design, enactment, and other social dynamics are inter-related and relevant to the substantive and process outcomes of engagement. The deliberative technology lens draws multiple elements to make them visible in a single, dynamic system, in which the deployment or uptake of techniques, material objects, or conceptual frameworks are parts of an interacting whole.

When a particular process falls short of ideal implementation or the desired outcomes, observers may be hard-pressed to identify the cause of the challenge. Was the engagement technique poorly matched to the problem or setting? Did the facilitator possess the requisite skills and exercise good judgment? Were the participants engaged as expected? Practitioners already know that the problems can rarely be pinpointed so narrowly. The lens of deliberative technology goes beyond that recognition to illuminate how the issues can be more holistically and dynamically understood. Practitioners can be more skillful with this type of framework at their fingertips. For example, we find the typology of elements in Figure 1 – techniques, material objects, conceptual frameworks, policy context, and facilitator-participant interactions – provides a useful mental checklist for assessing what is present and absent, what is working, and what might need adjustment. The deliberative technology lens thus facilitates observation, analysis, and intervention in practice.

Second, the holistic lens of deliberative technology has implications for the training of practitioners. Many existing training programs press practitioners to adhere to particular techniques or conceptual frameworks with fidelity. Yet, this analysis makes clear that these elements are malleable and merely dynamic inputs into a complex, emergent whole. Drawing upon the deliberative technology lens suggests that training should help practitioners *both* learn to design for fit to all of the anticipated elements of the context *and* make skillful adjustments given what emerges during deliberative processes. Since deliberation is people-changing, it must be tweaked or fundamentally reoriented in real time as the nature of the needed change among the participants comes into focus.

Thus, training programs that merely describe methods, or even workshops that allow people to practice them, will fall short if they do not prepare people to take an adaptive, responsive stance to the dynamic, emergent deliberative technology as it is enacted. We recommend that training include case studies and simulations

to give facilitators experiences of seeing and making adjustments. This allows them to be trained in enacting deliberative technology, rather than be trained merely in using deliberative methods. Additionally, practice communities that allow facilitators to regularly analyze their experiences with other practitioners could help to hone individual and collective understandings of what is involved in making skillful adjustments in the face of the emergent dynamics. These pragmatic adjustments to training processes are essential in a dynamic, co-productive field like deliberation.

Finally, this lens suggests new avenues for scholarship. As a generalizable model created through inductive analysis and grounded theory development, the concept of deliberative technology emphasizes the importance of understanding how the configurations and interactions of components in the typology of deliberation resources create desirable results. It also points to the significance of social dynamics and emergent understandings through deliberative contexts. Future research should focus on what might influence participants' experience of deliberative events and their take-up of the deliberation resources that are offered.

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