

Organizational Learning about Public Participation: “Tiggers” and “Eeyores”

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Abstract

The perceptions of “public” members of participation processes have been studied far more than those of agency personnel. To improve the practice of public participation, this study, using Q analysis, explores how personnel from one agency view their experience, expertise, and learning with regard to communication with the public, including but not limited to public participation. Without organizational learning, which is more than the aggregation of individual learning, inferences from history will be lost. We found two perspectives: the Enthused (“Tiggers”), who focus on the support they receive for communication activities, including learning, and the Constrained (“Eeyores”), who see the limitations of their program and their own learning. The differences in the perspectives were not associated with agency unit, level of hierarchy, communication training, or tenure in the agency. We suggest ways to promote interchange among these participants through double-loop learning, which has similarities to the interactive, recursive processes that can integrate analysis and deliberation.

Keywords: public participation, risk communication, government, organizational learning

Introduction

Typically, public participation (PP) research focuses on the “public” side of public participation. While there are studies of how members of the public feel about participatory processes, the agency personnel who manage PP are rarely asked. Similarly, empirical research in risk communication, even participatory aspects of risk communication, has looked primarily at “publics” and other recipients of messages, not the sources of communication.

PP research also has explored the interactions between publics and agencies. But little focus has been placed on factors within the agency that affect how the agency interacts

with those outside its boundaries. Yet, aspects of the agency, from its mandate to its personnel policies, have the potential to affect PP activities. Thus, agencies’ influences on the form and substance of the PP process are left relatively unstudied. Since “participation” by definition involves at least two parties, a one-sided focus will not fully advance our understanding. Failure to use an organizational lens is particularly egregious because agencies not only participate in such activities, they often play powerful roles, among them, sponsor, convenor, facilitator, funder, information repository, and outreach coordinator.

In this paper we focus on one of the woefully understudied aspects of public participation: perceptions of agency members. Instead of exploring how “the public” views public participation, we ask how agency personnel view their efforts and those of their colleagues.

Because we are particularly interested in how agencies might improve their public participation practice, we look specifically at how agency participants view their experience, expertise, and learning in communications with the public. We seek to understand their opinions of their strengths and limitations so as to better appreciate their ability to build on effectiveness and overcome weakness.

First, we provide an overview of the limited research on agencies’ attitudes towards their own communication efforts. We then discuss how theory related to organizational learning might illuminate our understanding of public participation. In addition, we discuss results of our study about how managers and staff of one agency, the New Jersey Department of Environmental Protection (NJDEP), perceive their organization’s communication activities (including PP). In doing so, we interpret how these perspectives relate to organizational learning. Another paper (Johnson and Chess forthcoming) provides a fuller overview of the results as a whole, while this article focuses on personnel’s perceptions about how they and their unit seek to improve practice. In addition, we suggest how agencies can improve learning about PP.

Perspectives of Agency Personnel

Surveys of agency personnel illustrate the need to improve agency efforts in communicating with the public, let alone fostering more complex public participation. Studies indicate agencies have limited one-way and interactive communication with the public. For example, one survey of health agencies (Chess and Salomone 1992, 31) found that there was strong rhetorical support for communication (91% agreed that “communicating with the public about environmental risk is an important agency priority”). But responses also indicated that communication was infrequent and largely reactive. The authors concluded there was a gap between agency rhetoric and practice, with the latter more reactive than proactive.

A similar distinction between beliefs and practice was found by Fisher et al. (1994), who surveyed staff of the Animal and Plant Health Inspection Service in the U.S. Department of Agriculture. Some 85% communicated about risks at least occasionally. Staff saw this as an important task and wanted to increase their time devoted to it without making it a major part of the job. Communication with professionals, however, far outweighed contact with activists or citizens.

State level research also suggests that agencies’ desire for communication outweighs ability. Government officials in New Jersey strongly agreed that “[i]nvolving people who are potentially affected in risk management decisions leads to better solutions,” and “[i]n explaining risks to the public, it is wise to pay as much attention to how you deal with people as to what you say about the risk.” But fewer than half of the 13 NJDEP programs polled described themselves as educating the public about environmental risks or had more than one person assigned that responsibility, and “there was relatively little outreach to seek a two-way dialogue with the public” (Chess and Salomone 1992, 29).

Given the evidence for this communication gap, participatory practices, which require extensive interaction as well as “mere” communication, are likely to lag even further. Improving PP is arguably an even harder task.

The limited research on agencies’ capacity for PP underlines the importance of organizational issues. For example, a study concerned with increasing trust in the Department of Energy found internal organizational issues particularly critical, and made more recommendations about internal operations than external ones (La Porte and Metlay 1996). Among them were developing incentives for personnel to develop PP activities and institutionalizing responsibilities to sustain public trust (SEAB 1993). Respondents to a national survey about agency risk communication (viewed as an interactive process) indicated that a lack of management commitment and expertise were serious barriers to agency risk communi-

cation (Chess et al. 1995a). Staff commitment and expertise were also seen as hindrances, although somewhat less so. Research on a particular form of public participation, meetings, found that most of 35 New York state officials were only moderately satisfied with the outcomes of the meetings; over one third suggested that more training, including presentation skills, would be helpful (McComas 2001).

Organizational Learning and Public Participation

Unless the implications of experience can be transferred from those who experienced it to those who did not, the lessons of history are likely to be lost.
(Levitt and March 1988, 328)

Learning is often discussed by agencies in terms of training for staff and managers. As described by Levitt and March above, however, organizational learning is more than an aggregation of the learning of individuals or dissemination of information. The organizational learning research is complex and extensive, including organizational sensemaking, use of information, and diffusion of innovation, among others. We summarize below some of the pertinent elements of organizational learning from some seminal reviews of the literature.

Organizational learning, according to one often-cited definition, is “encoding inferences from history into routines that guide behavior” (Levitt and March 1988, 320). The organizational learning may be manifest in changes in policy, rules, or practices. However, organizational learning is seen as a dynamic process, not merely an outcome. Organizations develop “collective understandings of history” or “story lines” (that are disseminated to their members only rarely through explicit mechanisms) (Levitt and March 1988).

Organizations learn from their own experiences, both positive ones and crises. They learn from the experience of other organizations as well. Learning may also vary by organizational unit. Thus, a legal department’s learning process and lessons learned may be very different from that of a communication unit. Even if they have lived through the same event, their interpretation of history may differ (Chess et al. 1995b).

As with PP activities, the process of learning is as important as actions that result. Most organizational theorists no longer see organizational learning as a rational process of collecting information and planning, followed by a decision by “a decision maker.” Instead, organizational learning, like PP, is described as an inherently messy process, involving shifting alliances within the organization. Learning is seen as more a political process than a linear one of “means-ends chains” (Scott 1992, 110). Similarly, organizational learning shares with PP that the outcome of the process is critically

shaped by the framing of the organizational problem (Scott 1992) as well as the decisions about who participates and how.

Organizational history is interpreted and redefined over time and, according to some, learning is “influenced less by the history than by the frames applied to that history” (Levitt and March 1988, 324). Thus, the organization’s interpretation of its history with PP may matter more than the actual history; the written history in a file drawer may not conform to the organizational interpretation of the event. Inevitably, interpretations may favor one political faction or unit over another (Easterby-Smith and Aurojo 1999).

Formal training may be less important than “on the spot” and “just in time” opportunities for learning (Finger and Brand 1999, 148). Informal feedback at the teachable moment may be more useful than a more generic training. Learning arising from dialogue with stakeholders outside the organization can be as important as in-house learning.

Indicators of an organization’s capacity to learn encompass the collective capacity to learn, such as the “successful interaction among individuals” (Finger and Brand 1999, 150), including productive dialogue and “group spirit.” Also among the indicators are cultural capacity to learn, reflected in “norms and values” that favor individual and collective learning processes (Finger and Brand 1999, 151) as well as the capacity of leadership to lead, which includes the ability to lead by example.

Some of the complexity of organizational learning has been reflected in modern theories that build on cybernetics (Morgan 1986). Agyris and Schon (1978) make the distinction between single loop and double loop learning, a seminal concept in organizational learning. Single loop learning results in decisions that keep organizations on the predicted course. For example, budgets allow organizations to see if their expenditures match forecasts and make changes accordingly (Morgan 1986). Applied to PP, when public outcry threatens a proposed agency regulation, an agency might tinker with the regulation. With single loop learning, organizational norms remain the same.

By contrast, double loop learning (Agyris 1982) changes the system, the rules and methods for deciding, unlearning the old ways and learning new ones (Scott 1992). For example, an agency might learn to change its process of developing regulations by involving stakeholders in an analytical-deliberative process (National Research Council 1996), bringing together interested and affected parties to define problems and discuss informational needs. The current consensus seems to be that double loop and triple loop learning (learning about learning) are important for organizational adaptation in turbulent environments, such as those encountered by environmental agencies dealing with multiple stakeholders who challenge organizational norms and systems.

Organizational Learning and the New Jersey Department of Environmental Protection

NJDEP has engaged in a variety of efforts to improve communication. For example, at least half of the courses available for professional development from the State are communication-focused, including using alternative dispute resolution, making powerful presentations, dealing with difficult people, facilitating meetings, and writing effectively. Consultant-offered courses (e.g., on public participation) and in-house courses (e.g., on risk communication) also have been part of the mix. The research arm of the agency has sponsored or written guidebooks on communications (e.g., Hance et al. 1988; Pflugh et al. 1992; Monmonier and Johnson 1997), and then actively disseminated these guidebooks, and provided or sponsored training in these topic areas. Based on the literature on organizational learning, we would expect limited impact from such efforts to improve the skills of individuals unless they were undertaken as an agency-wide effort to improve the agency’s communication efforts, not merely the skills of individuals. To do so would also require discussion of integrating these learnings into agency routines.

As theory suggests, however, changes in leadership of the organization have often changed the degree and nature of focus on communication with external audiences. Policies have not been sufficiently consistent to engender agency-wide efforts to change standard operating procedures. Politics can influence not only what a program or agency learns, but also what it forgets. As senior managers leave, they are replaced by new ones without program history and usually with less desire to learn history than to show results.

To varying degrees, individual programs encourage their staff to pursue additional learning opportunities (e.g., more than one person interviewed for this research mentioned that every member of the program’s staff is required to take a course in ADR or some other relevant communication skill). We do not have evidence as to whether this training has changed routines in the specific programs involved, and there is no indication that such efforts have changed routines in the agency at large.

Occasional efforts to look at the “big picture” of communication across the agency have been undertaken; the second author has participated in at least four of these months-long projects (involving tens to hundreds of people) over 18 years, including co-chairing the most recent one. These attempts to learn about agency communication patterns could have resulted in double-loop learning, developing approaches for the agency or units in the agency to learn how to learn.

Results of these attempts to gain a sense of agency communication patterns, however, have rarely been implemented, in part due to the difficulty of maintaining continuity across

political administrations. This is not to say that no learning (particularly individual learning) occurred as a result. However, once again, it is not surprising that politics have intruded on integrating learning about communication (Scott 1992). Each time the agency is reorganized (which seems to happen with each new commissioner), individuals with their hard-won lessons migrate from one job to another. These shifts in positions offer the chance of disseminating those lessons only if the new organizational context is similar enough for those lessons to be welcomed and implemented. In any event, the reorganization might reduce the possibility of institutionalizing learning in the unit of origin, through loss of the migrating individual's experience and commitment (Senge 1990).

The research arm of NJDEP provides technical support to individual programs grappling with particular communication or public participation challenges, and in the process tries to enhance in-house resources and learning (including advocating for systematic evaluation of communication efforts). In addition, sporadically the "communication specialists" in programs have organized themselves to meet periodically to share problems and solutions. While the sporadic nature of these efforts reflects changing workloads and management support, the continuity has also been hindered because many programs do not have "specialists," according to the research reported here. Finding problems and solutions that are similar across such a diverse agency has also been a challenge. Unfortunately, there is little likelihood that such meetings yielded substantial "encoding of inferences from history" into changes in practices, routines, or policies.

Methods

Q analysis (Brown 1980; McKeown and Thomas 1988) quantifies unique perspectives while yielding qualitative comments about stimuli, which are usually in the form of written statements about the topic being studied. People with a common viewpoint (identified by sorting out these statements) load highly on the same factor; those with different views load on other factors extracted from the sorting data. Q analysis has been applied widely in the environmental field, among many others (e.g., Webler and Tuler 2001 on "good" public participation processes; Webler et al. 2001 on good policy processes in forest planning; and Webler et al. 2003 on local government officials' participation choices in watershed management planning).

We undertook Q analysis because it provides the opportunity to explore opinions across the agency more easily than case study research might. At the same time, as explained below, Q analysis allows participants more flexibility to provide opinions than does a survey which limits participants' responses to a specific scale or ranking. Instead, Q analysis

encourages participants to organize statements in ways that have meaning to them and comment as they do so. These comments provide insights into respondents' thinking.

Q analysis seeks to define diverse perspectives, therefore participants are sampled so as to maximize the likely range of viewpoints (but without assuming that the sampling frame will exhibit one-to-one congruence with the perspectives revealed). Fifty-five individual interviewees (and one group interview) were recruited from NJDEP, an agency containing programs dealing with both pollution and natural resources, which in many other states are handled by different agencies. The top operational officials in the agency have the title of Assistant Commissioner (AC). The respective jurisdictions of the ACs are listed below, with descriptions of some constituent programs and (in parentheses) the number of interviewees in that area:

- Communications and Legislation (4): press office; Commissioner correspondence; environmental education; general communications support; legislative liaison
- Compliance and Enforcement (3): inspection and enforcement activities for the regulatory activities (see below); pesticide control
- Environmental Regulation (14): water quality construction; watershed permitting; air quality permitting; air quality monitoring and management; pollution prevention and right-to-know; nuclear power plant regulation; natural radon; medical X-ray machines
- Land Use Management (15): coastal regulation; tidelands management; wetlands; water supply; New Jersey Geological Survey; watershed management; ambient water monitoring and standards
- Natural and Historic Resources (7): marine fisheries; endangered and non-game species; wildlife education and information; fish and wildlife health and forensics; mosquito control; parks; forest management; forest fire service; Green Acres (purchases open space); dam safety and flood control; coastal engineering; historic preservation
- Policy, Planning and Science (4): research; policy formulation; environmental justice
- Site Remediation and Waste Management (8): liaison on Superfund sites; state cleanup of contaminated sites; oversight of private-party cleanups and industrial-site transfers; emergency planning and response; community relations; hazardous waste regulation; siting of hazardous waste and transfer facilities; resource recovery; recycling

About two-thirds of interviews were with "managers" authorized to formally evaluate someone's job performance. Gender was balanced overall and interviewees' tenure with

the agency ranged from less than one year to 34 years. Few people had communication degrees (e.g., journalism, communications, environmental education, etc.), but roughly two-thirds of our sample had some kind of communication training.

Stimulus statements were inspired by the literature, authors' experience as staff members of NJDEP and observers of other agencies, and preliminary interviews with staff members not part of the current sample. The final set of 47 statements (Appendix) represented the role of communication with the public in program functioning (e.g., its importance, motivations for it, degree of its integration with management decisions); barriers and opportunities to effective communication (both internal and external to the agency or program); and roles of managers, staff and other units in program communications.

Participants were asked about their "program's current communications with the public," with "communications" defined broadly and explicitly to include all kinds of contact between the program and the public, including forms of "public participation." Participants sorted 47 statement cards onto an 11-column grid from +5 ("most agree" it describes program communications) to -5 ("most disagree"), with a central zero column (neutral, uncertain). Interviewees were encouraged to state thoughts and questions aloud during sorting. The resulting sort was described in the interviewee's own words. Interviewees rated the quality of those current communications, on a scale from 0 (worst possible) to 100 (best possible). Questions were asked about "ideal" communications with the public, and background of the interviewee. Most interviews took 60-70 minutes (range 45-90).

Q Analysis

A total of 56 "current" Q-sorts were analyzed (55 individuals and one group), using PQMethod 2.11³. Principal component analysis and varimax rotation were used for all analyses, as centroid factoring and judgmental rotation offered no more insight. The software allows a maximum of eight factors to be extracted, all in this case with eigenvalues of at least 1.67. The first two unrotated factors extracted explained 35% and 9% of the variance, respectively. "Defining" sorts were chosen to maximize identification of unique perspectives: these people had to have loadings of at least +0.50 on one factor and no more than +0.27 on any other factor. Analysis of alternative factorings (e.g., three-plus factors) demonstrated none was as stable as the two-factor analysis reported here. For example, a three-factor solution had very low correlations between Factor 1 and the other two, but Factors 2 and 3 correlated at +0.44 with only two and three defining sorts each. While this result indicates some diversity within the factor we eventually termed "Constrained,"

clearly these latter factors had a large overlap. After consideration we decided the two-factor solution shown here does the best job of representing the perspectives on communication with the public in this NJDEP sample.

The two rotated factors were correlated +0.185, confirming their distinctiveness. These two perspectives are not opposites (otherwise they would load positively and negatively, respectively, on a single factor), but orthogonal views. Twenty people gave defining sorts for Factor 1; eight people did so for Factor 2. Six people provided high loadings ($\geq +0.40$) on both factors.

The following reports of Q analysis results focus on distinctive distribution extremes, as views about which people agree or disagree most strongly. Two scores are given for each statement (Factor 1 and Factor 2 responses, respectively), on a scale from +5 (agree most) to -5 (disagree most) to describe program communications with the public. We emphasize statements on which one factor scored +5 or +4 and the difference between the two scores for the statement was at least 4 units (all differences significant at $p < 0.01$). Those interested in responses to other statements can see the Appendix.

After Q analysis, descriptions of the two factors were confirmed with the people loading most highly on each factor (i.e., perspective exemplars).

Results

The analysis revealed two orthogonal perspectives on "current" program communications, the Enthusied and the Constrained views. In this section we describe these two perspectives and then interpret them through the lens of organizational learning. In other words, we look to these Q statements as indicators of a learning process and the learning itself.

The Enthusied

Their viewpoint could be summarized as follows:

We have a programmatic commitment to communication that is not legally required: our culture and our program managers ensure that communication is part of everyone's job and that we learn from experience in continuous effort at improving our communications. We acknowledge that sometimes citizens have negative political agendas, but this fact of life does not affect our work.

The Enthusied: A learning perspective

The enthusiasm of these Tiggers (the bouncy tiger character in A.A. Milne's "Winnie the Pooh" books) extends to

Table 1. The Enthused View: Statements with Normalized Scores

Factor I Enthused	Factor II Constrained	
Scale +5 (agree most) to -5 (disagree most) regarding program communication		
	I	II
(46) My program makes public communication part of everyone's job	+5	-1
(25) The culture of my program supports good communication with the public	+4	-1
(24) My program managers are committed to communicating with the public the way it should be done	+4	-2
(18) My program builds on past experience to try to keep improving its public communication	+3	-1
(36) Political agendas of citizens undermine our communication efforts	-3	+1
(4) Most of our effort to communicate with the public is required by law or regulation	-5	+1

their learning about communication. Communication is part of everyone's job, increasing the possibility of collective learning. Learning about communication tools, such as public participation, is not relegated to specialists, which would limit learning to a select few. If everyone is involved in public communication then collective learning, as described by Finger and Brand (1999), is more likely. The involvement of all personnel also means that there are greater possibilities for them to learn from each other and for "on the spot" learning. The involvement of all also increases the possibility that program personnel will witness each other learning. Thus, double loop learning, learning how to learn, may be more likely.

The Enthused focus on learning from experience conforms to Levitt and March's (1988) definition of learning as making inferences from history. The Enthused emphasis on experiential learning also allows for the possibility of documenting that history and institutionalizing learning in the program. Although learning from experience does not necessarily lead to institutionalizing learning, failure to value history virtually guarantees that learning won't be institutionalized.

The Enthused view conforms to the theory of organizational learning; learning is a process of continual improvement, rather than a one-shot effort. In addition, these Enthused do not define learning as an infusion of expertise from outside the unit, something external to their on-the-job routines. Nor do they see communication as currently driven by law. In fact, one comment on the legal imperative reinforces that communication was learned by experience: "It was in the law that we have to have an outreach component, but that's not what drives us now; if they took that law away, we'd still do it as the right thing to do."

Now communication is integral to the job, and supported by the program's culture, making it more likely that learning about communication will also be important. Support from the organizational culture, not merely a legalistic incentive, also increases the likelihood that the learning will be internalized. The culture supporting communication also makes it more likely that the program will support learning about communication. Capacity for organizational learning has been defined

in terms of "team spirit" (Finger and Brand 1999), a characteristic of the Enthused who seem to see themselves as adaptive and resilient with a can-do attitude.

The Enthused also feel that program managers are committed to communicating with the public "the way it should be done." Such management behavior is considered, according to Finger and Brand (1999), another indicator of organizational learning. In addition, management commitment is another motivator for personnel in the program to learn "the way it should be done."

Not only is the learning process supported but the Enthused inferences from history are also positive: citizens don't undermine communication. This observation suggests that the learning may be reciprocal, between citizens and program personnel. In fact, comments about a "citizen agenda" suggest that this potential negative is turned into an opportunity for learning: "I disagree [with seeing agendas as undermining], because we respond to the agendas" and "[the agendas] usually just reorient what we do, they don't undermine."

The Constrained

A summary of this "Eeyore" perspective (after the morose donkey in "Winnie the Pooh") would be that:

We fail to provide the resources of time, money and people, as well as access to decision-makers, needed for good communication. Program members lack communication expertise, using common sense rather than training to shape their communications. As a result, we could not respond if the public asked for more or better communication from us, although we increase our efforts as our need for public acceptance increases. We are constrained as well by citizens' limited time to participate.

The Constrained: A Learning Perspective

The hapless Eeyores' "woe is me" attitude about communication extends to their views of their ability to improve their communication. The gulf between where they are and

Table 2. The Constrained View: Statements with Normalized Scores

Factor I Enthused Factor II Constrained

Scale +5 (agree most) to -5 (disagree most) regarding program communication

	I	II
(47) People who communicate for my program have visibility, status, and access to the people who make major decisions about the program	+2	-4
(33) My program can meet public demand, if it occurs, for more or better communication	+1	-4
(15) My program invests the time, money and people needed for successful communication with the public	0	-5
(16) Program staff and managers have the needed expertise in communicating with citizens	+1	-3
(17) We use common sense rather than training to guide our communication with the public	-1	+3
(2) As my program's need for public acceptance of a decision or project increases, we increase our public communication efforts	-1	+3
(40) Citizens have the time and resources to take part effectively in my program's outreach efforts	0	-4

where they would like to be seems huge to them. The motivation for communication, and hence learning about communication, is limited. There is no payoff for individuals who try to communicate, nor is there an investment in the program's effort to communicate. This makes it very unlikely that there has been expenditure of time or money in improving communication efforts.

The program's motivation for communication is "acceptance," which is not likely to be granted by publics that feel acceptance is the agency's primary aim. This is not a lesson that the program has learned, even the hard way. Unlike the Enthused who learn from experience, the Constrained communicate using "common sense" rather than using expertise or experience. The program's managers can't serve as models for effective communication. As one interviewee explained, managers have "no expertise at all on communication; they just came up through the chain-of-command and wing it." This suggests that managers lack expertise and they are not learning from experience either. Neither do they provide resources for the program to engage outside resources from which to learn, according to the Constrained perspective. In short, for the Constrained, improvement is seen as unlikely.

The Constrained inferences from history are also depressing. Citizens are demanding and the program cannot meet that demand. Also, citizens can't respond to the program's efforts. Unlike the Enthused, the opportunities for reciprocal learning between citizens and the agency are seen as limited and difficult.

The Enthused see themselves and their programs as cheerleaders for communication. While some of the Constrained are generally pessimistic about their programs' participation, others are would-be cheerleaders who see themselves as forced by factors beyond their control to sit on the bench rather than perform. For example, when two of the Constrained did an additional sort on their ideal communication program, their sort looked like the current sort of the En-

thused. These participants wanted to be enthusiastic, but current circumstances meant they saw significant limitations.

Discussion

This study asked respondents to define communication in very broad terms, and "public participation" was not a tool used in every participating program, certainly not in formal terms of hearings or joint task forces. Most of the programs, however, included highly interactive forms of communication, and even the unit most negatively rated by its interviewees had recently tried a brainstorming partnership with its constituents on new environmental management approaches with encouraging results. We believe our findings are relevant to formal public participation, even if that was not the sole focus of the study.

Agency members' views about the process of organizational learning defy simple characterization about who learns in an organization. Surprisingly, members of each perspective were found in the same unit and the same level of organizational hierarchy. In other words, we cannot say that staff who deal with Superfund, which includes federal requirements for communication, are Enthused and those who deal with industry enforcement represent the Constrained perspective. Education does not distinguish the Enthused from the Constrained. Thus, we cannot assume that the Constrained have had fewer formal opportunities to learn. The Enthused do not have more tenure with the agency than the Constrained. Therefore, we cannot say that amount of experience in NJDEP distinguishes the Enthused and Constrained. Nor does power. The Constrained and Enthused were found among all ranks of the agency.

In short, we cannot pinpoint with available data what characteristics distinguish those who see themselves as communication Tiggers from those who see their program's communications with the public through the eyes of depressed donkeys. A large survey of NJDEP employees might reveal

demographic variations that this study cannot uncover, since it aims only to identify distinctive perspectives, not to identify their frequency or distribution. Perhaps participants' history with the agency and their individual experiences, or personality (those who see the world darkly are more likely to be Constrained), account for the differences. If organizational learning is a political process, it's possible that the Constrained have had worse experiences during transitions in administrations, reorganizations, or in intra-unit politics.

This study reinforces the view that organizational learning about public participation and other communication techniques is a complex phenomenon that is unlikely to yield to easy solutions, such as pre-packaged trainings. Federal agencies such as the Food and Drug Administration, the Environmental Protection Agency, Centers for Disease Control, and Department of Energy, as well as state environmental and health agencies, have invested in training for risk communication and public participation. A number of interviewees also mentioned the need for training, particularly among the Constrained whose perspective hinges in part on views about limited expertise. Even one of the Enthused noted that "communicating with [the] public on a daily basis, we do better than other programs, but more training [is] still needed." Thus, providing expertise through training may seem logical.

While training may be useful, organizational theory suggests that it is unlikely to be sufficient. The Constrained see a variety of organizational barriers hindering communication activities, including resources and management support. These are unlikely to be overcome by traditional forms of training. Even experiential training may not be sufficient to encourage adaptive learning suggested by organizational theorists and practitioners of organizational development. Similarly, while better documentation of PP planning, implementation, and evaluation could certainly aid within-program learning — and, with better internal communication, cross-program learning — this approach will not address other barriers (e.g., of managerial support and program culture), and runs up against the Constrained barrier of lack of time.

On the other hand, if learning how to learn is crucial for organizational adaptation, then internal discussions among the Enthused and the Constrained may be more fruitful than hiring a consultant to provide trainings. Leading scholars advocate self-designing systems for learning. "Self-designing organizations use routines consisting of small, continuous changes in the interest of frequent, adaptive updating rather than less frequent convulsing and crisis" (Weick and Westley 1996, 193). This system "applies lessons of the past while simultaneously questioning their relevance" — in short, routine reflection.

This type of self-designing system is more likely to come from dialogue within units, rather than imposed from

without. We can envision conversations in a unit containing both Constrained and Enthused perspectives, providing a richer set of lessons than either perspective could develop on its own. PP processes, which involve diverse views, can more effectively meet social goals than more insular decision making (Beierle and Cayford 2002). Perhaps the same is true about organizational learning processes: involving the Constrained and the Enthused in dialogue may more effectively help agencies communicate and learn about communication. Together, they may better institutionalize learning that can transcend political transitions and world views. If "nothing undermines openness more than certainty" (Senge 1990, 281), a dialogue that raises the compatibilities and contradictions in the views of the program staff may increase openness through questioning assumptions.

Rather than merely providing traditional training, agencies may also be wiser, according to the cybernetics underpinning double-loop learning, to focus on defining and challenging constraints rather than developing a master plan with clear-cut products (Morgan 1986). The differences in perspectives we have identified could be used to strengthen a learning process, by identifying members' varied assumptions and interpretations of history. Such reflection and reflexivity is important to facilitate double-loop learning, which encompasses bottom-up approaches to organizational planning, considering system limits, and questioning norms. For example, in an agency setting the Enthused and the Constrained could engage in dialogue about the extent to which the program currently integrates the public in decision making and could probe the extent to which members think it should. Discussions could also raise assumptions about resources and ways to deal with resource limitations. Being explicit about communication strengths might help to reinforce them and frankness about limitations might reduce those. In addition, discussing systems for collecting information on communication would help clarify what the program really values.

The concept of double-loop learning conforms to the admonitions in the National Research Council's report (1996) about interactive, recursive processes that integrate analysis and deliberation. Agencies simply need to be aware that neither promoting double-loop learning about public participation nor implementing an analytic-deliberative process is formulaic.

These insights come from one limited study of one organization. Research on attitudes and behaviors of personnel in a number of agencies is needed to provide insight into the prevalence of these perspectives. Although our interviews did not reveal substantive differences across different communication techniques, it might be fruitful to explore whether and how agency views about public participation vary from views about other program communication methods. Fur-

ther, combining our work with that of Webler and colleagues on views of public participation by non-agency members (e.g., Webler and Tuler 2001; Webler et al. 2001; Webler et al. 2003) could allow 360-degree assessment of perspectives on a specific agency unit's PP efforts by both internal and external observers, and thus enhance insight into opportunities and barriers for improving PP.

Conclusion

Learning to improve agency PP practice will not necessarily translate into improvements. Political forces, resource limits, and legislative mandates, among other factors, can influence both agency incentives and agency capability to involve publics in decision making, and thus potentially derail efforts to improve PP. Even the most sophisticated double or triple-loop learning may not overcome such variables. According to our research, however, both perspectives on one agency's practice by its employees, the Enthused and the Constrained, express interest in and concerns about organizational learning. Scholars and managers might do well to listen to them.

Endnote

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3. This is free software available at:
<http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/>.

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Appendix

47 Statements used in Q Sorts with Normalized Scores

Factor I Enthused Factor II Constrained

Scale +5 (agree most) to -5 (disagree most) regarding program communication

	I	II
(1) Effective communication with the public is essential to my program's success.	+5	+5
(2) As my program's need for public acceptance of a decision or project increases, we increase our public communication efforts.	-1	+3
(3) Threats to our program's goals or resources from outside the agency lead us to engage in public communication efforts.	-3	0
(4) Most of our effort to communicate with the public is required by law or regulation.	-5	+1
(5) We communicate with the public because it is the right thing to do.	+4	+3
(6) Communication by the program is often driven by local community or environmental justice demands.	-1	+2
(7) The benefits of communication outweigh the difficulties it sometimes creates for my program.	+3	+5
(8) Communication staff take part in my program's policy and management decisions.	0	-3
(9) Communication planning begins after my program has decided what to do about an issue.	-3	0
(10) Public communication does not compromise the scientific basis for our decisions.	+3	+4
(11) We make sure that all program plans and projects consider the communication issues these plans and projects raise.	+1	-2
(12) Public suggestions, questions and concerns have positive effects on my program.	+1	+1
(13) If citizens make a good case, my program is willing to change a project, policy, or activity.	+1	+4
(14) My program's own actions have more effect on its communication success than do the public's beliefs or behaviors.	-1	-1
(15) My program invests the time, money and people needed for successful communication with the public.	0	-5
(16) Program staff and managers have the needed expertise in communicating with citizens.	+1	-3
(17) We use common sense rather than training to guide our communication with the public.	-1	+3
(18) My program builds on past experience to try to keep improving its public communication.	+3	-1
(19) In my program, a criterion for rating staff job performance is quality of communication with the public.	+2	+1
(20) People in the agency notice when my program does a good job with public communication.	0	0
(21) Program managers and staff get constructive feedback from superiors on their public communication efforts.	0	-2
(22) We treat members of the public as resources for our program rather than as problems.	+3	0
(23) Our communications activities take into account that we cannot always trust citizens to act in good faith.	-2	-2
(24) My program managers are committed to communicating with the public the way it should be done.	+4	-2
(25) The culture of my program supports good communication with the public.	+4	-1
(26) Our program's public communication efforts do not conflict with those of other programs or with the agency's broader priorities and actions.	+2	0
(27) Competition for resources and power among programs within the agency interferes with my program's public communications.	-2	+1
(28) Trying new ways to communicate with the public is too risky for my program.	-4	-3

(29) Disruptive groups and individuals are not included in my program's public communication activities.	-4	-2
(30) My program takes some care in deciding who are our audiences in the public.	0	+3
(31) Reporters help our efforts to communicate with citizens.	-1	+1
(32) The public asks my program to take action on issues that we do not have the responsibility to address.	-1	+2
(33) My program can meet public demand, if it occurs, for more or better communication.	+1	-4
(34) One of the biggest problems with communication is that the public gets so emotional.	-3	0
(35) Good communication allows us to find common ground with people whose interests might differ widely from ours otherwise.	+2	+4
(36) Political agendas of citizens undermine our communication efforts.	-3	+1
(37) The public has the knowledge to grasp what we're saying and why.		
(38) Building and maintaining citizen trust in my program is relatively easy.	-2	-3
(39) Providing accurate information and taking correct actions are more important to program success than whether the public trusts us.	-2	+2
(40) Citizens have the time and resources to take part effectively in my program's outreach efforts.	0	-4
(41) When we have disputes with citizens, they are more about differences in values than over the facts of the issues involved.	-2	+2
(42) Interacting with the public is worth any personal hassle it might involve.	+1	+2
(43) Specialists do the communication work, so I don't have to.	-5	-5
(44) My program's managers leave communication to others.	-4	-1
(45) The program's managers are good models for interacting with the public.	+2	0
(46) My program makes public communication part of everyone's job.	+5	-1
(47) People who communicate for my program have visibility, status, and access to the people who make major decisions about the program.	+2	-4
