Adult Learning and the Generation of New Knowledge and Meaning: Creating Liberating Spaces for Fostering Adult Learning Through Practitioner-Based Collaborative Action Inquiry

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Practitioner research is a topic of growing interest and scholarly writing in the field of education in general and adult education in particular. This article describes a particular form of practitioner research that rests on a participatory worldview and draws heavily from theory and practice in adult learning and action research. Practitioner-based collaborative action inquiry strives to create social space in organizations and other social institutions for generative learning. It is argued that this form of adult education practice is critical in the implementation of emergent forms of knowledge creation and meaning making that have been described as Mode 2 knowledge creation. A robust example of this form of inquiry and the role of adult-learning theory and practice in facilitating it is described in detail as a practice-based example.

The focus of this article is an area of adult education practice that can be broadly conceptualized as practitioner-based collaborative action inquiry and the role of adult education learning practices within it. Specifically, this article focuses on how adult education practices can meaningfully contribute to creating the kind of social space necessary for producing actionable knowledge in organizations and other social institutions. This is demonstrated through an example of the creation of this kind of space in a robust practitioner-based collaborative action inquiry project. Practitioner-based collaborative action inquiry is used here as an umbrella concept for characterizing a process for facilitating the creation of new knowledge and meaning that address pressing social and organizational problems. This form of practitioner research is strongly influenced by the norms of a participatory worldview articulated by Heron (1992, 1996), Reason (1994, 1996), and Torbert (1991) that brings research strategies and concerns into

the service of adult learning. It also shares with the tradition of pragmatism certain epistemic values about "action" and the role played by social processes in knowledge creation. As such, it aspires to being an inherently democratic form of producing actionable knowledge and new meaning and is part of a long tradition of adult education as action research (Dickens & Watkins, 1999; Fals Borda & Rahman, 1991; McTaggart, 1991).

Following a brief summary of arguments in the literature regarding how new forms of producing actionable knowledge in complex societies are emerging, the first part of this article defines collaborative practitioner action inquiry in terms of four critical dimensions, developing them with the purpose of understanding this kind of inquiry. The second part of this article provides an example of a robust application of this form of inquiry in which the explicit application of adult-learning practices were a catalyzing influence in creating and facilitating the learning process, along with a discussion of how the inquiry was experienced by the participants. The article concludes with reflections on the role of adult educators as participants in this type of inquiry.

There is growing literature that highlights the complex processes of learning that are required for the creation of knowledge and meaning in complex social and professional contexts (Cook & Brown, 1999; Gibbons et al., 1994; Nonaka, Toyama, & Byosiere, 2001; Nonaka, Toyama, & Norboru, 2000; Nowotny, Scott, & Gibbons, 2001). Increasingly, it is being understood that knowledge, including scientific knowledge, is being generated in new and emergent settings, settings that are more democratic and characterized by greater epistemic and social diversity than has been true of the more traditional, disciplinary-based knowledge creation centers of the past century (Gibbons et al., 1994; Nowotny et al., 2001). These emergent settings present compelling, even daunting learning challenges as inquirers who have been socialized into traditional ways of functioning must adopt new ways of relating to one another and challenging their own assumptions regarding both their inquiry questions and their traditional ways of addressing them. Additionally, there are increasing calls for knowledge that is actionable, especially for knowledge related to organizational and social problems (Beer, 2001). The learning demands associated with generating this kind of knowledge require the skills of adult educators. As such, practitioner-based collaborative action inquiry represents an emergent and robust area of adult education practice.

This area of practice requires the adult educator to engage more holistically as part of the learning process than has been true in more traditional roles of organizing training and development programs or facilitating the learning process. Rather, it involves the full engagement of the educator as a coinquirer with other learners into their practice. This full-person engagement is important for creating the kind of social space within the inquiry

process that facilitates this kind of intense inquiry, linking the adult educator to the purposes of the inquiry and engaging him or her as a full partner in the reflexivity associated with the knowledge creation process.

FRAMING PRACTITIONER-BASED COLLABORATIVE ACTION INQUIRY

Practitioner research has been receiving increasing attention in the education literature in general (Altrichter, Posch, & Somekh, 1993; Anderson, Herr, & Nihlen, 1994; Carr & Kemmis, 1986; Elliot, 1991) and adult education in particular (Brooks & Watkins, 1994; Jacobson, 1998; Jarvis, 1999; Usher & Bryant, 1989; Usher, Bryant, & Johnston, 1997). Located at the intersections among adult-learning theory (Brookfield, 1986; Jarvis, 1992; Kolb, 1984; Mezirow, 1991; Tennnant, 1997) and the varied traditions of action research (Greenwood & Levin, 1998; Reason & Bradbury, 2001), practitioner research embodies three principles that have long been the hallmark of adult education practice and have been core constructs in the struggle for building a body of theory useful for guiding the practice of adult education: *learning from experience, cycles of reflection and action,* and *self-directed learning*. The goals and purposes of practitioner research are as diverse as the various models and forms that constitute adult education practice. Practitioner research focuses on the practitioner's own practice and is directed toward improving either personal effectiveness or the effectiveness of his or her practice setting (Jacobson, 1998). When realizing its most ambitious goals, practitioner research is transformative and emancipatory through practitioners' reformulating reified structures of meaning and reconstructing dominant narratives that have shaped their practice.

This article discusses practitioner-based collaborative action inquiry as a variant of practitioner research that is explicit in its construction of inquiry strategies that strive to create generative social space that conforms as much as possible to four dimensions:

1. Involving coinquiry among a collection of inquirers

2. Having the goal of producing new knowledge and meaning that can be shared in the public arena

3. Taking action in the "world" as an important vehicle for learning

4. Being intentionally educative, useful, and developmental for the participants.

As discussed in this article, practitioner-based collaborative action inquiry assumes that any social practice is best understood by those directly involved in it (Jacobson, 1998) and that as committed adult learners, prac-

titioners can contribute to a body of actionable knowledge while simultaneously building their own capacity for performance in their particular practice setting. Power is added to the inquiry through processes of effective collaboration because each person's mind reflects differently, and personal knowing is always set within a context of both cultural and experiential shared meaning. As argued by Heron and Reason (1997, p. 283) "having a critical consciousness about our knowing necessarily includes shared experience, dialogue, feedback, and exchange with others." Ultimately, knowledge is socially constructed.

THE DIMENSIONS OF PRACTITIONER-BASED COLLABORATIVE ACTION INQUIRY: A LITERATURE REVIEW

Practitioner-based collaborative action inquiry is a process directed toward creating *social space for generative learning:* learning that is necessary for transformational changes in practice (Nevis, DiBella, & Gould, 1995). Producing generative learning involves what Argyris and Schon (1974) call double-loop learning—questioning the assumptions or "governing variables" that guide our actions and inform how we frame or interpret a situation—and is distinct from the adaptive or corrective single-loop learning that takes place within these existing meaning structures. Double-loop learning reframes the assumptions that underlie the points of view and habits of mind that people use to interpret their everyday experience (Mezirow, 2000).

   An assumption underlying this article is that much like physical and geographic structures, societal, institutional, organizational, or community structures function to shape the possibilities for learning through constraining or opening up social connections. The creation of a safe space or "container" for engaging in open inquiry is a recurring theme in both the adult-learning literature and the literature on knowledge creation processes. Mezirow (1991) has emphasized the importance of trust and security as preconditions for the kind of discourse necessary for fostering transformative learning. Fisher and Torbert (1995) argue that society and organizations place substantial barriers in the way of processes of learning. Learning, they argue, requires the creation of liberating structures that are "both productive and educate members toward self-correcting awareness" (p. 7). Nonaka and his associates (Nonaka et al., 2001) highlight the importance of *ba* (roughly meaning "place") as a socially shared space or "container" for the purpose of knowledge creation. Their discussion of *ba* is

   based on a concept originally proposed by the Japanese philosopher
   Kitaro Nishida (1933/1970) and further developed by Shimizu (1995).

> *Ba* is defined . . . as a context in which knowledge is shared, created, and utilized in recognition of the fact that knowledge needs a context in order to exist. . . . *Ba* does not necessarily mean a physical space. . . . The most important aspect of *ba* is interaction . . . the power to create knowledge is embedded not just within an individual but also within the interactions with other individuals or with the environment. *Ba* is a space where such interactions take place. (pp. 498–499)

Whether it is characterized as a learning environment of high trust, openness, and security, a liberating structure, or *ba,* all these theorists are pointing out the importance of creating generative social space within which intense dialogue and knowledge creation can take place. However, adult educators have had scant guidance in how to create these spaces, being challenged in finding ways for providing "space, openness, or support for this kind of intense inquiry" (Yorks & Kasl, 2002, pp. 185–186). Practitioner-based collaborative action inquiries strive to methodically create this kind of generative space, where the present is "bracketed" for purposes of learning, with the intention of creating actionable knowledge and new meaning.

Creating this kind of generative social space intentionally changes the relationship among participants in a way that provides for repetitive cycles of action and reflection among coinquirers in which thinking and conversation are supported by data and tacit experience. It is the qualities of this space that differentiate various forms of action-based learning methodologies such as action learning, action research, and collaborative inquiry as manifestations of this kind of practitioner research. Each of these action methodologies (and related ones) can take various forms (Brooks & Watkins, 1994). For example, it is possible to identify several variants of action learning (Yorks, O'Neil, & Marsick, 1999) and action research (Greenwood & Levin, 1998; Reason & Bradbury, 2001). The qualities of the space significantly influence the kind of learning that results and its transferability from the inquiry to the practice setting.

COINQUIRY AS THE BASIS FOR PRACTITIONER-BASED COLLABORATIVE ACTION INQUIRY

One of the fundamental principles of practitioner-based collaborative action inquiry is coinquiry, most concisely defined as doing research *with* people, rather than *on* them or *about* them (Bray, Lee, Smith, & Yorks, 2000; Heron, 1996; Reason, 1988). The tensions and dilemmas raised by this distinction are readily apparent in the historical development of action research. Many behavioral and social scientists engaged in action research have struggled with the tension between their traditionally oriented experimental logic, which places participants in a setting that requires them to behave

according to a unilaterally imposed protocol and the unpredictable world of action (Deutsch, 1968; Seashore, 1976), as well as the contradictions between such logic and their democratic values (Cherns, 1975; Whyte, 1992).

Coinquiry turns this dilemma on its head, resting on an epistemology of participation that argues that inquiry into authentic human experience cannot be understood by conducting experiments and collecting data from other people, but rather, that one must be authentically inside the experience to properly explore and understand it. Heron (1992, 1996) argues that behavior produced by imposing research protocols tells us nothing about real "personhood," since by definition the "participants" are not present as fully self-determining persons. Only when the participants are fully engaged as self-directing persons in the inquiry process can authentic research be conducted into social and behavioral experience. Argyris (1968) pointed the way toward this epistemic stance many years ago when he questioned the validity of behavioral science knowledge produced in artificial and manipulative settings.

There is a political dimension to the principle of coinquiry as well that maintains that people have a right to participate and express their own values in the design of an inquiry into their experience. Only when this condition holds can it be ensured that inquiry empowers, rather than disempowers, participants. The epistemic and political dimensions of inquiry are invariably intertwined and connected to one another.

Although framed as a form of inquiry or research, practitioner research is a robust way of learning from experience. As a strategy for facilitating adult learning, practitioner-based collaborative action inquiry places the adult educator in an equal posture with the other inquirers, honoring the adult educator's competencies along with the competencies brought by all the participants in the inquiry, assuming them to be peers in terms of exploring and producing knowledge and meaning about the inquiry question. The principle of coinquiry brings full circle the progressive movement that disavows the elitist assumptions of traditional research and holistically implements a learner-centered approach to learning without disempowering the educator.

PRODUCING NEW KNOWLEDGE AND MEANING FOR THE PUBLIC ARENA

Much of the current writing on both participatory action research and practitioner research (Jarvis, 1999) talks about the situated nature of actionable knowledge. In all probability most practitioners who engage in inquiry are primarily focused on enhancing their own practice. Much of what they learn is situation specific to themselves and their relationship with their professional and personal settings. Practitioner-based collaborative action inquiry empowers participants by enabling them to learn and be-

come more effective in their own arenas of practice and as fully participating citizens in their social settings. Sidestepping broader epistemic debates about the feasibility of generalizable or foundational knowledge, it is not inconsistent to argue that much of situated knowledge is also of potential value to others, in terms of stimulating the thinking of others, providing for vicarious learning, and providing substantive learning that can be transferred to other settings and contribute to a broader discourse.

The Group for Collaborative Inquiry and thINQ (1994) have argued that failure to communicate findings and experience-based meaning from such inquiries to the outside world unintentionally impoverishes fields such as adult education in which the experiences of practitioners and their various constituencies should be part of the knowledge base that informs theory. Not communicating to the public arena also cuts off any dialogue around what has been learned from questioning and critique from outside the inquiry. Such critique is important for keeping inquiry open and free of groupthink and provides an important source of validity testing (Bray et al., 2000). The process of preparing for communicating the experience of the inquiry to others imposes a discipline on and adds rigor to the meaning-making process.

TAKING ACTION IN THE WORLD AS AN IMPORTANT VEHICLE FOR LEARNING

The dialectic relationship between action and reflection, often depicted in terms of cycles, has long been a central pillar of theories of learning from experience (Boud, Cohen, & Walker, 1993; Cell, 1984; Dewey, 1910; Jarvis, 1992; Kolb, 1984; Mezirow, 1991). Processes of reflection in its various forms and foci have received the most emphasis in this dialectic (Boud, Keogh, & Walker, 1985; Mezirow, 1991; O'Neil & Marsick, 1994; Schon, 1983), with entire journals even devoted to forms of reflective practice. This emphasis is understandable given reflection's pivotal role in the sense-making process. Creating space for reflection, as well as developing appreciation for the process, is especially challenging in American culture with its bias toward action (Marsick, O'Neil, Yorks, Nilson, & Kolodny, 1997). Reflection (Heron, 1988) and reflexivity (Steier, 1991) are crucial validity practices for practitioner-based collaborative action inquiry.

Despite the importance of reflection for catalyzing the meaning-making process, action must receive equivalent emphasis in the design of practitioner-based collaborative action inquiry. In this regard, practitioner-based collaborative action inquiry is a derivative of pragmatism, following Dewey's belief "that thinking and action are just two names for a single process—the process of making our way as best we can in a world shot through with contingency" (Menand, 2001, p. 360). Mezirow (1991) has argued that re-

flection is a form of action, albeit action that is essentially cognitive rather than overtly behavioral in its manifestations. Practitioner-based collaborative action inquiry strives to formalize reflection and action as parts of the same process, systematizing it into refined cycles of learning from both individual and shared experience (Heron, 1985).

The epistemic relationship of action to knowledge and knowing is the subject of a vibrant discourse. Cook and Brown (1999) argue for a distinction between knowledge and knowing. Drawing on Dewey, who considered knowing to be literally something that people do, not something that they possess, they use the term "knowing" to refer to the epistemological dimension of action itself. Dewey argued that knowledge is not independent of knowing but rather is an instrument or organ of successful action. Heron and Reason (1997), coming from a more phenomenological perspective, argue that practical knowing, the ability to do something as demonstrated through action, is "in an important sense primary," presupposing "a conceptual grasp of principles and standards of practice, presentational elegance, and experiential grounding in the situation within which the action occurs" (p. 281). Heron and Reason use the terms "knowledge" and "knowing" interchangeably but clearly situate formal propositional knowledge (defined by them as statements and theories that adhere to the formal rules of systems of logic) as having meaning for practical action within the context of direct-feeling encounters with the world and an intuitive grasp of this experience (p. 281). Theirs is an epistemology of participation in which inquirers engage one another in a process of applying their collectively constructed propositional knowing in the world of their practice, generating new forms of encounter with the world, leading to revised propositional understanding that is always only partial and limited in its expression. Action is at the center of knowing and is validated through doing. Knowing is embedded in process and is not a commodity.

For our purposes here, knowledge is codified knowing, an entity: a linguistically defined commodity that can be stored, transmitted, communicated through various means, and even managed. Knowing is localized and finds its expression in action, involving the integration of formal knowledge and learning from experience. Through action, a multiplicity of experiences is generated, providing grist for dialogue, discourse, and critical intersubjectivity. Action is itself an important part of the validity-testing process, seeking verification thorough repeated and diverse episodes of experience. Through practice, action consummates prior forms of knowledge and knowing and is grounded in them (Heron & Reason, 1997). Therefore, careful consideration has to be given to shaping the actions being taken, linking action to a clear rationale that is either data or experience based, with relevance to the context in which the actions are taken, and a strategy for assessing the impact or consequences. It is important that

the participants in an inquiry be in a position to take action as part of their learning strategy. This is fundamental to the coinquiry process, providing for diversity of experience and the basis for collaborative sense making. Action is foundational to the educative goals of this kind of inquiry.

A PROCESS THAT IS EDUCATIVE FOR THE PARTICIPANTS

Producing learning for the participants is the raison d'être of practitioner-based collaborative action inquiry. The word "learning" denotes *change* (Bateson, 1972, p. 283). Robust practitioner-based collaborative action inquiry can lead to a variety of changes including those in intellectual skills, knowledge content, and cognitive strategies, heightened awareness, and transformed meaning perspectives. Although the educative function of practitioner-based collaborative action inquiry may involve acquiring abstract knowledge or knowing what and why, the primary goal is producing knowing in practice or knowing how and caring why (Quinn, 1992). The distinction between "know what/know why" and "know how/care why" is the difference between "talking about" and "talking within" a practice: "the former tends to be more descriptive, explanatory, and systematic, whereas the latter more performative and *ad hoc*" (Fox, 1997, p. 30). Writing in a similar vein, Vaill (1996) defines learning as "changes a person makes in himself or herself that increase the know-why and/or know-what and/or the know-how the person possesses with respect to a given subject" (p. 21).

   The most fundamental validity criterion of this kind of inquiry is the change produced in the participants by their inquiry and how they function in their practice settings (Reason, 1992). Taking action to effect changes in the outer world of one's practice often involves changes of similar magnitude in personal development and self-identity. There is reciprocity between the inner and outer worlds of learners as growing consciousness of their actions (or inactions) in various settings provides tensions that lead to exploration of their own contradictory feelings and belief systems (Yorks & Kasl, 2002). Changes in personal identity and self-understanding invariably result in changes in how people "show up" in various settings.

A SNAPSHOT FROM PRACTICE

Below we provide a brief abstract or "snapshot" of one manifestation of this kind of inquiry—a very robust practitioner-based collaborative action inquiry project in the U.S. Department of Veterans Affairs (VA). With funding from both the VA and the National Science Foundation (NSF), the VA Stress and Aggression project involves a diverse cross section of inquirers, including a range of practitioners (health care providers, administrators, union officials, and rank-and-file employees including custodians and grounds-

keepers) and a group of academic researchers with different disciplinary specialties and epistemic assumptions. The project has multiple objectives, one of which is learning more about the dynamics of carrying out what Gibbons et al. (1994) describe as Mode 2 knowledge production. The characteristics of Mode 2 inquiry are working on problems that are set in application rather than in the framework of an academic discipline, requiring collaborative transdisciplinary relationships, and carried out in forms that are nonhierarchical, heterogeneously organized, and essentially transient. When the presenting problems are essentially organizational-social-political in nature, the resulting knowledge production project may take the form of action research in which practitioners and academics working in diverse professional fields collaborate (Yorks, Harmon, Twomey, & Keashly, 2002).

OVERVIEW OF THE PROJECT

The VA Stress and Aggression Project began in 1998 with internal conversations among midlevel VA managers about the problem of workplace aggression. These early conversations among practitioners first led to the identification of two academic researchers prominent in the literature on aggression in organizations and an agreement to gather data while creating an instrument for measuring stress and aggression. Subsequent conversation among practitioners in the VA brought the project to the attention of academics associated with a university-based center for human resource management research that brought two additional foci to the project. The first was the development of quantitative models that could be used to develop a business case for reducing stress and aggression in the organization, and the second was the adoption of a practice-grounded action research model for the process. This shift subsequently led to additional networking, inviting in an academic with a background in adult education and organizational learning, and making explicit the more holistic goals of the project. These goals became formalized within a NSF grant proposal and with the addition of the learning-coach concept to the project design, which now included the establishment of 11 action teams located in self-selected sites within the VA and composed of employees from the local site.

   With funding through the NSF grant and various sources within the VA, a 3-year project was initiated in 2000. Reflecting their commitment to mixed-methods inquiry that strives toward realizing the governing values of "Model II" organizational learning systems (Argyris & Schon, 1996), project team members referred to their action research approach as "data-driven collaborative action inquiry." Specifically, these governing values are norms of full disclosure of valid information, free and informed choice, and internal commitment to testing of information for both single- and double-loop learning (Kowalski, Harmon, Yorks, & Kowalski, 2003).

Important events over the course of the 3 years included (a) training learning coaches nominated by each site to facilitate learning in the action teams; (b) collaboration between the project team and the action teams in the final design and administration of a stress and aggression survey at the sites; (c) collaboration between the project team and the action teams in analyzing and making sense of the survey data; (d) action teams' reporting the survey results from their sites to employees; (e) action teams' developing interventions based on site-specific data; (f) providing a measure of quasi-experimental control for assessing project impacts through identifying an additional 16 facilities, matched to inquiry sites, that agreed to serve as comparison sites, allowing data collection but not engaging in active interventions; (g) creation of qualitative "context maps" and facilitated discussions between project team members and each action team for the purpose of learning from the experience; (h) collaboration between the project team and action teams in the design and implementation of a second survey toward the conclusion of the 3-year cycle; and (i) collaboration between the project team and action teams in the design of a final assessment and sense-making meeting.

SUMMARY OF RESULTS

Results from the project have been and will continue to be reported elsewhere (Harmon et al., 2003; Kowalski et al., 2003). What is critical from the perspective of this article is the explicit attention being paid by the participants to the learning process from an adult-learning perspective. The following paragraphs provide a summary of results in order to provide context for the reader. We begin by quoting from the report on the project to the NSF (Harmon, 2004):

> Results show that pilot (experimental) sites demonstrated significantly more improvement than comparison ("control") facilities over the course of the project. For example:
>
> • There were significant reductions in stress and in all forms of aggression in pilot sites but not in comparison sites.
>
> • Eight out of 9 behaviors related to occupational work compensation claims were significantly reduced at the pilot sites, whereas none were significantly reduced at the comparison sites.
>
> • Six out of 9 behaviors related to equal opportunity claims were significantly reduced at the pilot sites, whereas only 2 out of 9 were significantly reduced at the comparison sites.

- Employee satisfaction increased substantially more in pilot sites than in comparison sites.

... Differences across local action teams in the impacts of their change efforts were related to variation in both site factors and the uptake of collaborative action inquiry processes by the teams (Kowalski et al., 2003). Not surprisingly, positive impacts on facility-wide outcomes varied according to the project's scope/scale relative to the size of each facility. Impacts tended to be greater at the smaller sites (e.g., 33–260 employees) in which the team and their programs reached virtually the entire facility (i.e., a relatively large-scale intervention), and tended to be smaller at the larger sites (e.g., 630–2,797 employees) in which the communications and interventions of the action teams were of proportionately smaller scale. (pp. 2–4)

Detailed analysis of the data and presentation of the various actions taken by sites can easily be the subject of a number of articles. A brief example can be provided by the case of the Houston National Cemetery, a small site whose workforce is largely involved in physical work (preparing and maintaining grave sites and the grounds). At the beginning of the project in 2000, the cemetery had a workforce separated by occupation, race, and gender, as documented in interviews and reflected in one of the highest rates of Equal Employment Opportunity (EEO) complaints and grievances in the National Cemetery Service. Productivity measures were declining, as were employee satisfaction measures in VA survey data. The site had high levels of aggression and stress (measured by the project team's stress and aggression survey). Some employees viewed the site director as an "autocrat," and he had recently received an anonymous death threat.

The site action team was comprised of a union shop steward, workers, and white-collar administrative employees, along with an employee from human resources who was trained as a learning coach and functioned as a full member of the team. Members of the action team fed survey data back to all site employees, inviting comments on reasons for reported perceptions, the meaning of data, and possible interventions or action steps. The action team created a "rover," someone who would mingle throughout the workplace on a regular basis to take the "pulse of things" and identify emergent disputes among employees. This latter activity was integrated with an action-team-initiated and peer-designed dispute resolution process that was supported by training from a national officer of the American Federation of Government Employees. Inquiry practices learned through the project were employed for discussing disputes and crafting informal resolutions. Additionally, employees now serve on committees that the director relies on for employee input. All these actions became grist for

reflection and learning about the social dynamics of the site. In the words of one worker on the action team, "I came to realize that until I changed my own behavior, I could not influence anyone else."

In 2003, there was a statistically significant 16% decrease in self-reported stress, a statistically significant 31% decrease in total reported acts of aggression, productivity (burials per worker) increased by 9% while workload increased by 9%, representing an 18% positive change. There are no outstanding EEO complaints or grievances, with none having been filed in the past 2 years. Perhaps most significant, a blue-collar member of the action team recently visited a VA hospital experiencing significant employee relations issues and stress and aggression issues as part of a team of project team members invited to the hospital to share their experience in the project. This worker made a presentation on the cemetery's experience to both blue-collar and medical staff at the hospital.

Each of the 11 sites has a unique story. It is not specific interventions that were the most significant lessons learned, but rather it was each site's engaging in a process of inquiry, asking members of the project team for additional "cuts" of the data and using the data to point toward problem areas with an increased capacity for seeing patterns and diagnosing analogous situations. A revelation to members of the project team was the extent to which action team members had engaged this role. In the words of one member of the project team, echoing a widely held sentiment among the team, "When the action teams started reporting interventions, the project team viewed some as superficial. Then we visited the sites and saw the context and targeted complexity of the intervention." It is also important to note that some sites were more effective than others. One hospital pilot site dropped out of the study because of labor-management issues. In addition, one benefits site had such limited participation in project activities that its results were omitted from most analyses. The latter has since reconstituted its action team. We are still learning about how legacy issues around power and control, as well as other contextual factors, influenced the local action teams in their inquiries. This aspect of the inquiry process continues.

THE ROLE OF LEARNING PRACTICES IN THE INQUIRY

Among the things that make this project unique is the evolving focus on learning that became stronger as the project developed. The richness of the results from the project is, to a significant degree, attributable to the diversity of epistemic perspectives both among the academics and between the academics and the practitioners. However, this diversity potentially threatened to derail the project at many critical junctures. Numerous forces, some organizational, some discipline based, and some personal, have pulled at the cohesiveness of the project team. Holding the inquiry together

at its core is the growing realization that generating meaningful actionable knowledge requires learning from each other in a way that synergistically creates knowledge and meaning, transcending the additive combination of contributions from the various distinct areas of practice. Learning, as the key to realizing the shared goal of making the VA a better place to work, is the countervailing force holding the project together.

The addition of an adult educator to serve as the team's learning coach marked the beginning of the project team's intentionally paying attention to its learning process. Over time, the project team sought to incorporate into its work ideas and practices from models of organization learning (Argyris & Schon, 1996; Senge, 1990; Watkins & Marsick, 1993), various forms of participatory collaborative inquiry (Bray et al., 2000; Cooperrider & Srivastva, 1987; Heron, 1996; Reason & Bradbury, 2001; Torbert, 1999), and an array of reflective practices.

This learning-coach role differed from a traditional group facilitation function in that it was integrated into the team with the intention of helping participants reflect on their difficulties and explicitly draw learning from their experience. Initially, there was skepticism among various members about the use of these practices. Acceptance came after the introduction of the practices helped facilitate resolution of difficult points in meetings, surfacing issues and allowing the participants to challenge their various interpretations of what was going on. All of the participants, including the adult educator, were embedded in a process of coinquiry that saw them increasingly function as learners as well as researchers. In the words of one project team member,

> the expanding network has forced us to confront, balance and integrate divergent paradigmatic assumptions, theoretical frameworks and research methodologies. The project's holistic nature and use of action inquiry requires us to continuously examine and reflect our team's process, our research, and our methods as part of the whole living system. We now see holism as a naturally emerging force of networks, enriching the project's context.

LEARNING PRACTICES AND THE CREATION OF THE "GENERATIVE SPACE"

In both the project team and the action teams, the term "changing the conversation" is heard. This change centers on the learning practices introduced into the project, such as reflection and dialogue (Candy, Harri-Augstein, & Thomas, 1985; Mezirow, 1991), the learning window (Stewart, 1997), the ladder of inference (Argyris, 1993), and various methods for "harvesting the learning." The learning window is a metaphor that asks participants to carefully differentiate between "what they know they know"

(with reference to their data for making this claim and obtaining consensual validation of this claim from others), "what they think they know" (and how they can test these inferences through actions and data), and, based on actions, data, and reflection, "what they know they don't know" (and need to learn to effectively address the issue). The ladder of inference is a similar metaphor. Participants identify what they have actually observed, heard, or experienced in descriptive terms or through their analysis of quantitative or qualitative data (first rung of the ladder) that has led them to make certain interpretations of meaning (the second rung) and attributions about causes (the third rung) and possibility generalizations (the fourth rung). The assumptions underlying these interpretations and attributions are identified, and actions and methods for testing alternative interpretations are identified and carried out. Going up the ladder is a process of advocacy, whereas going down the ladder is a process of inquiry. The goal of these and similar practices is to balance advocacy and inquiry. It is important to note that the adult educator didn't teach these practices but participated in them.

Members of both the project team and several action teams commented on how the inquiry processes imbedded in the practices provided a space for addressing difficult issues that otherwise did not exist in the organization. In the words of the members of one action team, in their meetings "people left their organizational identities, union-management, whatever, at the door. There is a different kind of conversation that takes place in these meetings." Establishing this space is what makes the project team and action teams distinct from the task forces and committees that are routinely established within the VA: The philosophy of coinquiry is the foundation of this space, and the adult-learning practices made the philosophy operational.

This space is social, not physical, in nature, and its creation is organic and evolutionary, not formulaic. Recently, members of the project team engaged in an interpretative process for making sense of their collective experience of what the creation of this space was like for them. This sense-making process began at the initiative of one of the practitioners from the VA who was reflecting on his experience and interested in sharing it at a greenhouse meeting of the Society for Organizational Learning being held at Boston College. The participating members of the project team referenced critical events in the documented history of the team, using these events as extracted cues (Weick, 1995) or social markers of their shared lived experience (Ricoeur, 1971) for starting the sense-making process. They then contributed descriptive reflections of their experience of these cues, which were subsequently shared and commented upon. The resulting description is itself a social construction consistent with Garfinkel's (1967, p. 115) characterization of sense making as a process through which actors "*in the course of a career of actions*, discover the nature of the situations in which they are acting."

Consistent in the reflections of the participating project team members was a description of a qualitative shift in the kind of conversations that took place in the team, a shift they marked with the term "threshold." Past this threshold is sense among team members of inhabiting collaborative space, a time when the project team does seem like a liberating structure that is both productive and educative (Fisher & Torbert, 1995). Figure 1 provides a schematic representation of this process that is basis for what follows.

Initial meetings of the project team during its first several months of existence were characterized as a prethreshold phase of tense negotiations and peripheral understanding. The fault lines of these negotiations were (a) tensions over control, (b) tensions around timing and action, (c) tensions around role boundaries, and (d) questions about the validity of data and knowledge. Underlying these tensions were more fundamental issues of purpose and visions of what would constitute a successful project, diverse motivations for participating, and the confrontation between deeply held worldviews about what constitutes meaningful knowledge, how it can be generated, and what would be required to have it taken seriously by various audiences both within the organization and among broader stakeholder
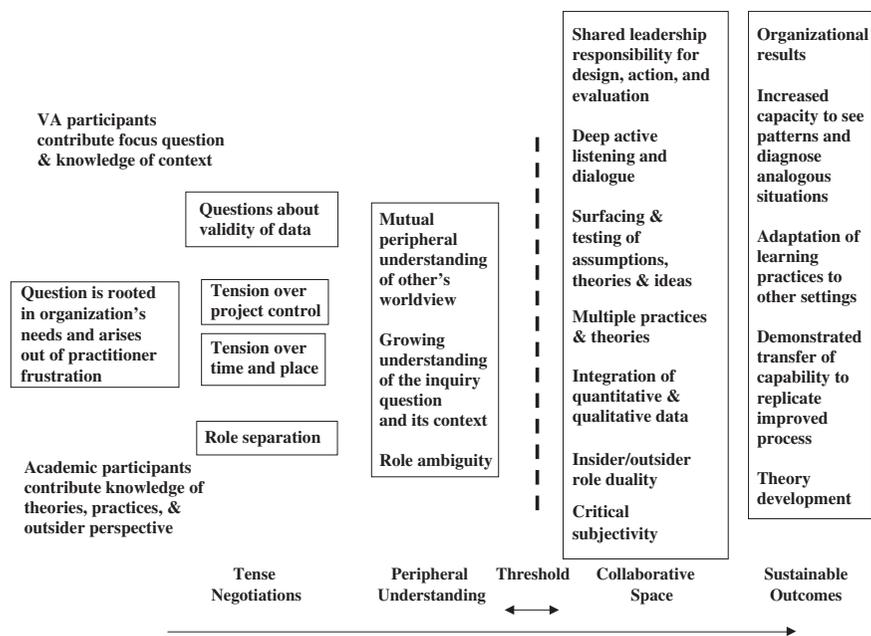

Figure 1. Development of Collaborative Space: Initial Framing of the model by Dan Kowalski, Department of Veterans Affairs.

publics. One of the practitioners described her experience during the early phases of the project:

> I was conscious of the tension existing with my own role in the organization. My work had to be viewed as practical, yet, I was being "contaminated" by theorists. Initially, I tried to keep each role contained. Learning how to work across boundaries was difficult.

It was the introduction of the learning practices that began the process of what a couple of the practitioners labeled "peripheral understanding." Peripheral understanding involved going beyond negotiation and creating a lens of mutual, if peripheral, understanding of others' worldview, along with a growing understanding of the rich complexity and context of the project's objectives and the emerging role ambiguity among participants. This appears to be the first substantial step for members transcending the focus of the various disciplines and practice areas and creating space in the conversation, allowing members to listen more carefully to surface unquestioned assumptions and to come to recognize how these assumptions might reflect preheld worldviews being imposed on the problem by various participants (an example of this level of critical reflection and dialogue is provided below).

In the words of one practitioner member of the project team, prior to introduction of the learning practices, "participants often talked past one another." Relating to a rather comprehensive reflective exercise for harvesting the learning from the first 9 months of the project, an academic member of the project team with a strong positivistic quantitative background commented, "until I was able to . . . watch myself and the group in action, I was not open to differences and possibilities." This same person reflects on this peripheral understanding as follows:

> I began to consider my involvement in terms of action research process, not just aggression. My focus shifted to considering the antithetical nature of collaboration and aggression. Furthermore, I began to reflect on the dynamics of the project team and how it evolved over time. This led to a sensitivity toward process over product.

Participants describe an experience in which the nature of the conversation has a different quality, one of crossing a threshold into collaborative space where the learning practices had become tacit and part of their natural way of working together. This threshold is not a fixed point in time, and there is movement back and forth in terms of maintaining this qualitative state. It occurred when members of the group engaged in careful dialogue, reflective listening, and testing of meaning against data and

experience. One practitioner noted, "Learning practices helped me 'quiet' the mad rush of daily activities. When I found this space internally, I found this space with others." Another practitioner reflected, "you could feel and hear the marked differences in the relations and conversations on this side." Reflecting on the idea of a threshold, one member of the project team wrote,

> some participants regularly crossed this threshold, some did less frequently, some hovered on the threshold, but quickly retreated. When most of us were in this "space," the interactions among team members were respectful . . . enlightening . . . and productive.

Members of the project team describe this collaborative space as characterized by acceptance of earlier tensions, the surfacing and testing of assumptions, theories, and ideas, the processes of critical subjectivity and intersubjectivity leading to consensus-based validity testing through the integration of quantitative and qualitative data, and the challenging of various interpretations made of the actions taken by the team. These spaces are not benign. To the contrary, when most powerful as containers for learning, these spaces are simultaneously stressful and energizing, and within them, participants become aware of the nuances among their epistemic and political values and the diversity of their lived experience as they progress through the cycles of action and reflection and the accompanying divergence and convergence of their shared experience. These spaces are also fragile, subject to disruption by strong personalities and situational forces.

Although the above details the experience of members of the project team, a similar phenomenon seems to have been important to the effectiveness of the action teams as well. The previously cited report to the NSF notes that

> across all site contexts, [action] teams that evidenced greater collaborative and reflective behaviors were generally more effective. Such teams seemed better able to build more trust, create better conversations, identify interventions with greater power and appeal, exert their own leadership, and enroll support from operating-level leaders. (Harmon, 2004, p. 4)

LEARNING AND METHODOLOGICAL REFLEXIVITY THROUGH REFLECTION AND DIALOGUE

The role played by reflection and dialogue in facilitating coinquiry is illustrated in the words of one of the academics' written reflections on the epistemic challenges of conducting this kind of inquiry in response to the

question of "how the scientific way of thinking about the world has become implicit in what I do."

> As someone who understands statistics, this concerns me because statistics are like any metaphor . . . they highlight some things and ignore others. That is, they will reflect and be framed by the analyst's point of view. . . . In focusing on how to enhance the employees' and organization's learning from the various data we have pulled together, I have been made aware of how I "take for granted" the scientific method as a way of making sense of the world. I have hypotheses/assumptions, I gather data and I test these hypotheses/assumptions. I look for alternative explanations. The learning tools have helped me make conscious again what has become unconscious i.e., make what has become mindless, mindful again. Working with the action teams has highlighted that it is not the only way that people think about and interpret their world. It has helped me when I am not in my researcher mode to look at my assumptions for what they are and to consider what info/data I have to examine them. . . . I struggle with the knowledge that there are multiple ways of thinking about the world; of processing data. I realize that some ways of thinking (like the scientific method) have been privileged and that they are gendered. So, I have a push-pull tension around empirical, positivist thought and that knowledge which is more contextualized, intuitive, and traditional. My question is whether we are privileging a method of understanding over other methods and whether indeed we know what these other methods are. And is this a good thing? What are the consequences of that?

Reflections such as this are critical when the team confronts more serious disagreements, some of which are based in the differing premises about knowledge held by various members. For the most part, participants try to embrace the problems and opportunities that emerge from their actions, learn from them, and build on them. Reflection on action also surfaces themes, which then become platforms for critical reflection on these themes, drawing on both qualitative data and personal experience, seeking consensual validation. Five such themes have emerged that are related strongly to assumptions about knowledge:

- Conceptual tension
- The relationship of quantitative and qualitative methods
- Shifting focus of the project
- The nature of "doing science"

• The joy of doing research that has meaning outside of one's disciplinary community

The following rather elementary illustration addresses the discomfort of one of the academics in the project team's discourse. Part of the discomfort is perhaps based on the rigor of the person's training and the focus of prior and substantial professional contributions. Strong internalized values about not going outside one's area of developed competence are also in evidence. Also, however, there is an awareness of the impact of a blending of language for communicating the project to other project team members, action teams, and the larger organization. The resulting reflections that were triggered in others by this person's surfacing this issue reveal that various participants are not as far apart as initially thought. These reflections also demonstrate the extent to which practitioners have come to accept the thought processes of the academics, especially in the second practitioner's reflection. However, the first practitioner's reflection opens the door for the project team to reflect more seriously on the differences between what, in Quinn's (1992) terms, might be called "know-what" and "know-why" in contrast to "know-how":

Academic member's reflection:

There is also the tension between what in my mind are distinct concepts yet their distinction appears blurred in how others on the team (both project and action team) talk about it. For example, the two concepts of stress and aggression. These are very different constructs. They may well be linked causally but they are distinct. Yet when others talk about the project they talk about them almost as if it is a new concept called "stress & aggression." In addition, my sense of the literatures in both areas is that we have done a fine job of assessing aggressive behaviors but we have not done justice to stress (stressor-stress-strain). Thus, I feel more confident in talking about the aggression findings than I do about a two-item measure of stress, yet that appears to be what grabs people, particularly on the VA side. How do I stay true to the notion of construct when the way others construct what is meaningful is different?

First VA practitioner's reflection:

From a practitioner's perspective, I believe that stress and aggression are two different concepts and understand the academic distinctions. However, the academic language is awkward for trying to communicate with practitioners. This is more of trying to take the academic terms and tools and translate them into language that resonates with practitioners. Concerning the two different concepts of stress and

aggression—Imagine these concepts as paintings—several academic "artists" have gotten together and painted a picture titled "aggression" and another picture titled "stress." Any academic who looks at these paintings has immediate understanding and appreciation. Now what practitioners are asking you to do, in my opinion, is to help us paint a picture of "stress-aggression" as we describe it to you—you can use what you know about stress and aggression to keep it in perspective—but we need a quicker way of communicating, our own picture, of these concepts.

Second VA practitioner's reflection:

. . . raised the issue of how others in the project use the phrase "aggression and stress" and what they mean by that phrase. When I use the phrase "stress and aggression," I see the two as separate issues. I do not mean "stress/aggression." Let me sketch out a simple view of my meaning [see figure 2].

Stress and aggression are related in a rather complex loop, but I do see them as different constructs. I think that organizational conditions can directly cause stress, but I am not sure that organizational conditions can directly cause aggression. The path seems to be indirect to me through stress and fear.

Space does not permit further development of the implications of this exchange. We can summarize by emphasizing that this reflective discourse on real-time experience and action is demonstrative of the evolving relationship among the inquirers and the educative nature of their shared experience together. As the project unfolded, participants on the project team
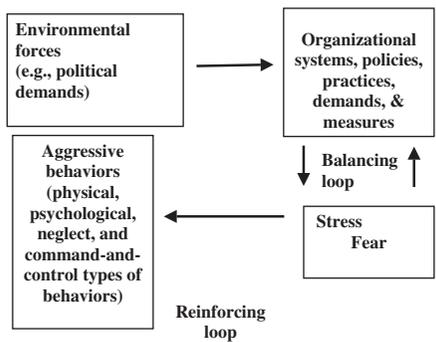

Figure 2. Second VA Practitioner's Reflective Sketch of the Relationship of Stress and Aggression in a Complex Loop

became aware of the artificiality of the academic/practitioner distinction, that such labels were names for socially defined roles that had little meaning within the context of the project. This awareness was fundamental to the capacity for blurring roles when discussing data and interventions. The practitioners were active contributors to the knowledge creation process (including many of the ideas expressed in this article), and the academic researchers were no longer in an elite role. Both groups were in a relationship defined as learning. Paradoxically, this change in perspective allowed the kind of reflective exchange on roles and beliefs that drove more learning into the dilemmas of effectively addressing the presenting problem of stress and aggression.

A major revelation from such reflexivity came when the project team realized that inadvertently, they were in many ways reproducing the same dynamics within the team and between the team and the sites as existed in the larger organization that they were trying to change. This reproduction was a function of the unexamined assumptions shaping the relationship between the project and the site-based action teams. In many ways the organization had unintentionally simulated a hierarchy, with the project team planning and the action teams waiting for instructions. With this realization came a change in process, with the inclusion of action team members in project team planning meetings.

THE IMPORTANCE OF THE PUBLIC ARENA

Throughout the 3 years of the project, there have been several occasions in which learning from the project has been taken to the public arena. These include three presentations at consecutive Academy of Management meetings, a special meeting of the British Academy of Management on Mode 2 research held in Scotland, a meeting of the Eastern Academy of Management, a meeting of the National Institute for Occupational Safety and Health sponsored by the American Psychological Association, national meetings with the VA, and various publications. Additionally, there has been a 2-hr broadcast over the VA's internal video network that included call-in questions from employees throughout the organization. Both the VA practitioners and the academic members of the project team have jointly participated in all of these events. Typically, in the meetings of academic associations, the VA participants are the only practitioner voices at the meeting.

Communicating in the public arena has been an important part of the learning process. Preparation and writing crystallize ideas. The public exchange also brings in new ideas that subsequently shape the future conversation within the inquiry. In the words of one VA member of the inquiry, "the deadlines force us into taking time for reflection and sense making."

CLOSING REFLECTIONS ON PRACTITIONER-BASED COLLABORATIVE ACTION INQUIRY AS ADULT EDUCATION

While the above snapshot describes a project that seems unusual in its scope and funding, we believe it to be illustrative of the role adult education practices can play in work far afield from traditional adult education venues, taking place in the forefront of knowledge creation and meaning making in organizations and other social institutions. Grounded in application, embracing the intimate collaboration of academics and practitioners as coinquirers, fusing rigorous quantitative and qualitative methods, and intentional about engaging in deep reflective inquiry about its methodology, the VA project is an example of what we are calling practitioner-based collaborative action inquiry and is a form of Mode 2 inquiry (Gibbons et al., 1994). We believe the bringing together of diverse individuals will be increasingly critical for resolving the problems and challenges of a complex and rapidly changing society, be these challenges in the fields of health care, education, organizational performance, or community development. Effectively addressing complex challenges in these areas will require working in ways that are different from conventional ways of working within any of the constituent frameworks, yet solutions cannot be addressed without these various disciplinary foundations; there has to be a "mutual interpenetration of disciplinary epistemologies" (Gibbons et al., pp. 29, 30).

Returning to our four defining criteria of collaborative action inquiry, there is a growing literature (cited in this article) that provides an epistemic foundation for this kind of knowledge creation as well as documenting emergent forms of knowledge production. This literature attests to the need for establishing structures within which new patterns of interaction for learning can emerge. In the context of practitioner-based collaborative action inquiry, adult educators bring their competencies for fostering a capacity for learning into active engagement with the presenting problem in the service of creating the social space for coinquiry. In so doing, the adult educator's own practice is also open to reflexivity on its methodology as well as gaining insight into the learning issues that are part of the process in translating "knowing what" into "knowing how" (Quinn, 1992; Vaill, 1996). Learning is in the service of having an impact on the presenting problem that in turn provides new awareness to the adult educator of the dilemmas inherent in adult education practice.

The aforementioned example of the project team's realizing that it was in many ways unintentionally replicating many of the organizational habits that it was trying to change was as much a revelation to the adult educator as it was to other members of the project team. In was an insight into the challenges of bringing espoused theory of codetermination (Heron, 1996) into adult education practice and how subtly taken-for-granted patterns of

power relationships can migrate into the inquiry process. So too was an observation by the adult educator and his colleagues during a site visit conversation with one action team whose members realized that they would have to continue to take action and learn from that action in order to have an impact on their site, whereas the site director was assuming the team would make policy recommendations. Both of these realizations provided insight into the challenges of crossing boundaries from one learning setting to another when the learning is imbedded in the process.

In carrying out their role, adult educators are transferring their competencies to other members of the coinquiry process as they internalize the use of adult-learning practices. In the VA, this aspect of the educative impact of the inquiry is seen in the extent to which learning practices have come to be used by some members of the project team and the action teams. VA participants have consistently incorporated learning practices such as reflection into meetings and training sessions. The language of the learning window ("What do we know?"/"What do we think we know?") and the ladder of inference (as in "I am making an attribution here, based on these data") are regularly used without prompting. One academic member of the team has altered the design of his organizational-change course at the university into an action learning format. Members of the action teams have shared how their behaviors have changed away from work as well.

New lines of inquiry have emerged from the collaboration between the adult educator and the VA practitioners and other academics. For example, the group has observed that the creation of collaborative space appears to be dependent on the time spent in collaboration with one another before a critical mass of the group crosses the threshold and creates a collaborative space. As they begin the process of diffusing their learning to other parts of the VA through new coinquiry projects, they are asking the question, "What practices can hasten the development of a collaborative space?" Another question raised by the group is based on the observation that the sustainability of collaborative space appears to be dependent on face time with the group. Although collaborative space, once achieved during face time with the group, can be sustained in a virtual form, it seems to dissolve over time. What practices can extend the effect of collaborative space in a virtual setting?

In the VA project, all participants have engaged as coinquirers, each with a particular body of knowledge and expertise necessary for creating actionable knowledge relevant to the presenting problem of stress and aggression in the workplace. Gradually, members of the project team came to understand that to accomplish this outcome, they needed to inquire into the nature of their respective practices, regardless of whether these practices involve their work as academic researchers in various disciplines or various administrative functions in the organization. From this perspective, all were practitioners inquiring into their own practice.

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