Syst Pract Act Res (2007) 20:105–116
DOI 10.1007/s11213-006-9053-1

ORIGINAL PAPER

The Role Conundrums of Co-Inquiry Action Research: Lessons from the Field

Lyle Yorks · Aliki Nicolaides

Published online: 3 February 2007
© Springer Science+Business Media, LLC 2007

Abstract This paper focuses on the role conundrums that confront action researchers who are engaged in co-inquiry designs for purposes of generating knowledge that is both actionable and makes a robust contribution to a more generalized body of knowledge. Drawing on the lived experience of researchers in such a project in U.S. Department of Veteran Affairs, this paper describes the conundrums that confronted the researchers, identifies the central dynamics around which they seem to be organized, and discusses the impact on the subsequent practice of the researchers. Practices that establish reflexivity in the research process are an important part of the role of the researchers. So too is establishing relationships that provide for sensemaking and integrating rigor and relevance.

Keywords Collaborative inquiry · Complexity · Reflexivity · Learning practices

1. Introduction

This paper focuses on the role conundrums confronted by academic action researchers who are engaged in co-inquiry designs for the purposes of generating knowledge that is actionable in a contextually relevant way and makes a robust contribution to a more generalized body of knowledge. More specifically, drawing on a series of reflexive presentations in various academic venues and discussions about the lived experience of the academic researchers involved in an extensive action research (AR) project of this type, we characterize the nature of these conundrums, identify the central dynamics around which they seem to be organized, and discuss the impact on the subsequent practice of the researchers. By co-inquiry designs we refer to action research governed by the ideals and norms of a participatory world-view that strives to bring research strategies and concerns into the service of full epistemic and political participation. This form of inquiry is often summarily described as doing research

L. Yorks (✉) · A. Nicolaides
Department of Organization and Leadership, Teachers College, Columbia University, Box 224, 525 West 120th Street, New York, NY 10027, USA
e-mail: ly84@columbia.edu

with people, rather than *on* them (Heron 1996; Heron and Reason 1997; Reason 1996). Such a posture, we would argue, requires acknowledgement that academic researchers are not outside the system, but rather are an elemental part of the composition of the system involved in the study (Stacey et al. 2000). As such, their intentions, decisions, contributions to conversations, and actions are among the many factors influencing the outcomes that emerge from the activities and interventions that comprise the study. Action researchers typically pursue problems that are more complex than those of conventional social science (Greenwood and Levin 1998). The co-creation of an inquiry process for addressing these problems is an additional component in the system, adding to its diversity with the researchers learning along with others from working with the system, not working on it.

Engaging in this kind of co-inquiry oriented AR goes to the heart of epistemic and role issues involved in the rigor vs. relevance debate. Underlying many of the potential role conundrums are differences around what constitutes knowledge and the appropriate behaviors and actions for producing it. These epistemic differences are intensified by the institutional positions occupied by those involved in the research enterprise. In addition to concerns about peer review for publication, academics are often confronted by the institutional expectations of funding agencies, and the need for establishing and sustaining the academic credibility of their research centers. In effect, the academic researchers are themselves in the nexus of two complex systems.

Practitioners are in turn confronted with the need for making an impact on the presenting problem, which in turn requires them to find ways of integrating the emergent knowledge with process and tacit knowledge, and beliefs and values that work for them. This kind of co-inquiry requires academics to take the lead in fostering both what has been called abstract knowledge involving '*know-what' and 'why' knowledge* and knowing in practice, involving *know how* and *care why* (Fox 1997; Quinn 1992; Vaill 1996). All parties involved in such co-inquiry need to be reflexive and testing of 1) content (what is perceived, thought, and felt in terms of both formal knowledge and their personal theories); 2) process (how this content is being experienced and processed) and; 3) the taken for granted premises and suppositions revealed by this reflexive process. Engaging in this level of reflexivity requires both the intention and skill for what Torbert (2001, 2004) has identified as first, second, and third person action inquiry. When participants in an AR project engage in co-inquiry, they all need to inquire into the nature of their respective practices regardless of whether these practices involve their work as academic researchers or in various practitioner functions in the organization (Yorks 2005). In that sense co-inquiry is *educative* for the all the inquirers, as academics and practitioners develop new perspectives of their respective worlds of practice, and the line between the two becomes increasingly blurred.

2. The grounding for the reflective analysis

This paper is a product of the kind of reflexivity cited above. The discussion that follows is drawn from considering the reported experience of action researchers in an externally funded, multiyear project—the Stress and Aggression Project conducted in the U.S. Department of Veteran Affairs (VA) between 2000 and 2003 with funding from both the VA and the National Science Foundation (Kowalski et al. 2003). Four academics, all from different universities and from three different academic disciplines, were members of a fifteen-member project team whose remaining participants were drawn from across the VA to 1) assess the effectiveness of organization change interventions designed to reduce workplace aggression and stress and improve performance, and 2) examine whether and how using "collaborative action inquiry"

–the project's label for a form of participatory action research in which participants partner to co-manage cycles of research-action-reflection—may enhance organizational learning and change (Harmon 1999).

Both quantitative and qualitative methodologies were employed with eleven field sites, each with its own local action team. A set of demographically matched comparison sites was also selected for the statistical analysis. The project team explicitly defined itself as engaged in a form of what has been termed mode 2 research (Gibbons et al. 1994; Nowotny et al. 2001) comprised of heterogeneous and organizationally diverse inquiry teams and whose final product requires a strong embracing of a transdisciplinary approach (Twomey et al. 2001; Twomey et al. 2002). Given the diverse epistemic assumptions involved, the academic researchers had to forge meaningful roles that go beyond those typically captured by methods books. Over time the distinction between researcher and practitioner blurred as those practitioners playing active roles in the inquiry process (including participating in academic symposiums) engaged as co-inquirers.

Four inquiry questions have focused the development of this paper:

1. What role conflicts did the researchers experience in the knowledge production process and what strategies did they employ in resolving or managing these conflicts?
2. What was the perceived impact of these conflicts on the knowledge that was produced by the project?
3. What epistemic insights are revealed by the dynamics of these role impacts?
4. How did role conflicts impact the researchers practice?

2.1 Overview of the VA project

The VA Stress and Aggression project unfolded over a period of five years, from its initiation by a mid-level Human Resources (HR) professional in the VA Headquarters in late 1998 through completion of its formal stage in 2003. In 1998 the VA HR professional, a man with extensive field experience throughout the VA system, reflected on the fact that he and his colleagues repeatedly were involved with disciplinary cases that seemed to involve reactions to stress that manifested themselves in the form of aggressive behavior. The application of disciplinary procedures did little to address the problems that led to the need for imposing penalties. He and his colleagues seemed to be repeatedly addressing the symptoms and making no progress on the underlying issues.

Consequently he began reading the published literature on stress and aggression in the workplace and contacting researchers regarding their interest in participating in a study using the VA as a source of data. Two psychologists independently replied and a series of conversations among the HR professional's network of contacts led to the formation of the project team encompassing various staff and operational functions in the VA and a diverse group of academics, including the two psychologists, a faculty member from a business school and, subsequently in 2000, an adult and organizational learning specialist. In 1999 the project team began a process of designing a survey instrument that would assess levels and sources of stress and aggression. Additionally, one of the academic members began developing a structural equation model using prior survey data collected within the VA in order to identify issues that affected organizational results and make a "business case" for the project.

The original plan was to use the model developed from prior survey data, along with data gathered from the new survey to make recommendations regarding the issues that surfaced. The project team "would track effects over time, comparing where recommendations were

implemented and were not implemented" (Kowalski et al. 2003, p. 41). This was an 'expert consultation' model employing quasi-experimental design assessment methods.

It was during the time that this design was evolving that the first reflexive experience spontaneously took place. A sub-group of the project team participated in a pre-conference workshop at the 1999 Academy of Management (AoM) Meeting in Chicago, and it was here that they were exposed to the models of participatory action research. Challenged by the question raised by a workshop facilitator of "where is the action in your research?" the members of the team who attended the session realized that their planned approach was not likely to make a difference in the VA. This realization led to the adoption of a participatory action research model in order to obtain deeper participation in developing recommendations for local action. Steps were taken to enroll local action teams at eleven sites, along with others sites selected for comparison purposes. Over a period of three years (2000 to 2003) several meetings were held with the local teams, including a meeting that refined the design of the new survey, data feedback following the survey, visits by members of the project team to the field sites, a couple of meetings involving the project team and members of the field action teams, and a final meeting of all the teams with presentations and lessons from the project. Funding from the aforementioned NSF grant, and sources within the VA provided support for the participatory design. The project team adopted the term 'collaborative action inquiry" to describe its process.

In 2003 results from the sites with action teams demonstrated significantly more improvements than the comparison facilities, including reductions in stress and in all forms of aggression, and a substantial increase in employee satisfaction (Harmon 2004). It also needs to be noted that each site has a unique story. Variation in both site factors and the extent that local teams took on the collaborative inquiry role are associated with differences across the teams. Our focus here is on how the emergence of the participatory action research approach, and the reflexivity required of the project team members as engaged researchers, influenced their role and shaped their practice. Detailed information on the entire project's design have been reported elsewhere (Kowalski et al. 2003).

2.2 Reflective practices adopted by the team facilitating engagement

With the adaptation of a practice grounded action research model for the process, and a strong intention to initiate change in the organization, one academic with an organizational learning focus convinced the members of the project team to experiment with explicit learning practices. This led to the invitation of the academic researcher with a background in adult learning to visit the team and introduce some learning practices, including *reflection and dialogue* (Candy et al. 1985), *the learning window* (Stewart 1997), and the *ladder of inference*, (Argyris 1993). These practices were done in the context of a project team meeting, being introduced at various points in time when the diverse team seemed to be stuck or caught in circular discussions.

These kinds of reflections were not just rote practices, but rather practices for invoking what Steier (1991) calls self-reflexivity as a social process. This kind of reflective practice was not immediately embraced. Recalling their initial reactions, one project team member commented, "initially the learning practices were viewed as too time consuming, and there was suspicion regarding the value." Another said, "I just wanted to die. I was crawling out of my skin. All I kept thinking about was . . . we have a limited amount of time . . . we haven't gotten anywhere and now I got to get into this . . ."

Acceptance of the learning practices came with the realization that they provided a way for people to surface issues and move the project forward. The practices, initially artificial in

the minds of most of the team, begin the process of listening and seeing alternative ways in which data and interventions could be contextually understood from different perspectives. In addition to reflecting on their own practices, they engaged the field site action teams in reflective practices as together with the site teams they created context maps, and engaged in dialogue about the meaning of the results and the experience of the process (Kowalski et al. 2003; Kowalski et al., forthcoming). Our discussion focuses on the emergent insights from these practices into the role of the engaged researcher.

As their experience with reflective practices grew the project team began structuring their meetings to include a broader reflection on their actions. This included harvesting the learning exercises that permitted the team to visualize the interconnectedness of various roles within the team. In the words of one researcher describing the first of these experiences:

> We did a project meeting in Washington ... [that included] ... harvesting learning. Everyone is asked to write on little Post-its significant events that occurred in the project and put on these big sheets of paper that had time lines ... you could see different people remembered different things and forgotten some things ... we had planned the harvesting the learning thing for 2 hours in the morning. In fact we decided to extend it almost 5 hours because it was so useful and we spent time talking about it.

Another researcher stated, "With harvesting the learning experience, we could all hover over the project, look at it in a global way and then descend and come back again to look in a new perspective."

Their reflective practices extended to the public arena. Members of the project team, both academics and a sub-set of practitioners participated in a series of symposium presentations at the Annual Academy of management meetings, beginning in Toronto in 2000, Washington, D.C. in 2001 and Denver in 2003. The first was a 'fishbowl' type presentation in Toronto in which various members of the project team described aspects of the project. Michael Beer from Harvard made observations about the turns the project had taken toward a participatory AR design and its emerging direction (one of which was cautioning about the challenge of "feeding the elephant" a reference to the scope of the emerging initiative) and then solicited further comments from the audience. The second was structured more as a traditional paper symposium with intermediate results from the project being presented. The third meeting 2002 in Denver was structured as a play with members of the project team again seated in chairs in a line at the front of the room. Prior to the meeting members of the project team responded to a short list of questions prepared by one of the academic members of the team. Based on their answers to these questions a script was prepared, with members presenting their responses and also adding comments. Joe Raelin of Northeastern University and David Tranfield of Cranfield University responded to the presentation as discussants, with additional feedback from the audience. The Toronto and Denver meetings were structured to surface and test assumptions held by members of the project team in the public arena as the project was evolving.

3. Making sense of the journey—reflecting on the role of the engaged researcher

The 'data' for our discussion are the material produced as the basis for the academic symposiums (Harmon et al. 2000; Twomey et al. 2001; Yorks et al. 2001, Yorks et al. 2002), notes made during the 'harvesting the learning' discussions, a dissertation being completed by a doctoral candidate (Reid-Hector 2006), and personal conversations with members of the project team. In addition to the above mentioned AoM symposiums, academic and

practitioner members of the project team attended additional meetings, including a special research forum on Mode 2 research sponsored by the British Academy of Management, University of Glasgow, and the University of Strathclyde School of Business, two incubator meetings of the Society for Organizational Learning, and an APA/NIOSH Work, Stress, and Health Conference. These are in addition to several meetings among various members of the project team specifically focusing on their experiences in the project as part of the process of preparing various reports and documents.

In preparing this paper the first author read through the various documents produced for these meetings and notes from discussions and conversations. Subsequent to this review, the first author also specifically contacted some of his colleagues in the project and asked for their perception of how the experience had changed their practice. To initially classify issues, he used the framework some members of the project team adopted prior to the Denver AoM conference; namely (1) ontological issues (objectivity/reality vs. subjectivity/constructed reality), (2) epistemic issues (what constitutes valid knowledge and knowing), (3) methodological issues (obtaining valid knowledge), and (4) axiological issues (values of being). Identifying themes that emerged, he used the guiding questions presented at the beginning of this paper to further think about the issues of being an engaged researcher. Conversations that both authors had with some members of the project team led to adopting a complexity perspective as a meta-framework for conceptualizing the implications of the themes.

4. Emergent role conundrums

The project can be conceptualized as evolving through two phases. While the role conundrums were never entirely resolved (indeed one can argue that continued awareness of the conundrums is productive), they were pronounced during the first phase of the project which involved the emergence of the full participatory design. This phase began with the change from the more traditional design which created tension between a couple of the academics who were not at the AoM workshop in Chicago and the academic and practitioners who had attended. One of the academics not at the Chicago meeting reflected later "I was increasingly concerned about the focus on organizational learning, that the original intentions were being lost or compromised." The transition to the second phase was probably beginning around the time of the harvesting the learning workshop in Washington, D.C. in 2001. By the time of the 2002 Denver AoM meeting the preparation documents explicitly mentioned phases one and two of the project. The answer to our first question is generally found in the data referring to phase one; the answer to the next two questions are generally found in during phase two. The answer to the fourth question emerges from several subsequent conversations and discussions with and among members of the project team.

4.1 What role conflicts did the researchers experience in the knowledge production process and what strategies did they employ in resolving or managing these conflicts?

Based on the comments made by researchers in the above symposiums and meetings, and interviews, the role conundrums produced by the positional relationship of co-inquiry have manifested themselves in the form of four themes, (1) conceptual tension, (2) the relationship between leadership and control, (3) a shifting focus of the project, and (4) the nature of doing science (Yorks et al. 2002). Underlying these themes was the need on the part of the researchers for conceptual clarity (aggression and stress as distinct constructs), accuracy of measurement (concern about contamination through sensitizing respondents by presentations

of the action teams at the sites prior to the survey) and having action follow accurate measurement. The practitioners needed to find an efficient way of describing the study (agreeing that stress and aggression are distinct, but in conversation efficiency of language is important for communicating to the organization), good enough data (don't need to provide the conclusive case to get started, accept that the organization is not a laboratory) and addressing problems that help people is more important than 'sanitizing' the research design (protect the people not the research). Not surprisingly, this is the classic rigor vs. relevance schism, driven by the above mentioned themes.

For the academic researchers resolving the role conundrums corresponded to a transition from expert to a learner with specific competencies that could be contributed to the project in an emergent relationship with other project team members who had their own unique competencies. This transition was facilitated by the learning practices that in turn became *habits of practice*. The emergent strategy was embracing reflexivity through reflection and dialogue which provided a way for the academic researchers and practitioners to begin talking to each other, providing points of entry into a co-inquiry model of participatory research. In the words of one participant, "The introduction of the learning piece helped us to be able to talk to each other. I think that what people have done really well is because we're in a learning mode . . . we want to learn what we're doing, we want to learn from it in a way that we capture the learning."

The researchers who became engaged with the project were trained in and had built reputations using conventional research approaches of surveys and field observation. In short, they all brought to the project competencies of conducting research from a position of the traditional subject-object split, studying the phenomenon in question from a perspective of detached control. As one researcher describes it, in working with practitioners it was a role similar to the "doctor/patient" relationship. In partnership with non-researchers "I was framing my next statement or response while the other person was talking—I knew where I was going next from a research perspective."

The italicized phrase "habits of practice" above, is important because the journey into being engaged co-inquirers required the researchers adopt the role of learner, as opposed to analyst and expert, specifically learning one's way into the project, and through participating in process and premise reflection making one's learning explicit. This doesn't imply the devaluing of the skills and competencies of the academic researchers, but rather contextualizing them as the functional capabilities they bring to the project, and recognizing that utilizing these capabilities are part of the "business of AR." So too were the skills and capabilities brought to the project by the non-academic members of the team. The learning involved blending these diverse capabilities into a form of practice that overtime made the boundaries porous, and led to role migration.[1] By role migration we mean the establishment of relationships within which learning occurred and different actors crossed over into leadership roles during the flow of the project.

The role of learner involved becoming aware of how one's premises and habits of practice unintentionally was structuring the inquiry process in ways contradictory to the intentions of the project, perhaps even producing some of the same kinds of relationships the project was intended to change. The project team came to realize that they had recreated a relationship between their team and the site based action teams that mirrored the structure of the

[1] The term 'role migration' was first mentioned by Arnie Aprill, an awardee of the Leaders for a Changing World Program, funded by the Ford Foundation and the Advocacy Institute, and a participant in a cooperative inquiry that was part of the Research Center for Leadership Action at the Wagner School, NYU during an analysis of the experience. See Yorks et al., forthcoming.

organization (headquarters and field). This was impacting the relationships between the project team and the site teams in terms of understanding the process. It was also impacting the academics' understanding of the meaning of the actions being taken.

4.2 What was the perceived impact of these conflicts on the knowledge that was produced by the project? And what epistemic insights are revealed by the dynamics of these role impacts?

Early in the project there was a tendency to see the quantitative aspect of the study as the knowledge and qualitative data as explaining the process. Because of the evolving nature of the relationships among members of the project team, by 2002 and phase two of the project there was a growing realization that this was a false dichotomy. Awareness emerged of seeing patterns across the project that connected different actions with various methodological and experiential lenses that saw different realities. The role of learner involved learning how one's premises and habits of practice were shaping how one was interpreting actions and limiting the researchers understanding of the implications of data and the multiple ways they could be acted upon.

When a group of members from the project team decided to make site visits, the experience "felt humbling—and also generated substantial new insights." "While we had talked about co-inquiry, we had not fully practiced co-inquiry with the action teams ... We had set the stage, but had not lived our intention. The project team had seen itself as helping them ask questions, but did not engage in co-inquiry until we visited them and heard their stories ... [joining] with them to make sense of what we had observed and heard together" (Kowalski et al., forthcoming). Among the insights were how action teams looked at data and distilled it with their explicit and tacit knowledge of the local contest and culture. Often project team members would discount the actions being taken. During a site visit a member heard "a story of a rather simple intervention that was purposefully targeted at a rather complex nested set of issues that appeared in the data." Not anticipating the field site's intervention to be this deliberately experimental, the person was struck by its power and practicality as a real world inquiry mode.

Learning how to relate both to multiple ways of looking at data and experience was central to the evolution of the project team, and by extension to the project itself. An academic member of the project team reflected on how:

> 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 ... 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 ... what are the consequences of that?

The members of the project team came to understand how knowledge is socially constructed through conversation and discourse. This insight became expressed as "learning is relational" and as "rigor + relationships + relevance". In the words of one project team member, the reflexivity converts the team into "a place to have the conversation." These conversations change the relationship to both others and to data. Ultimately, it became clear that project decisions had an epistemic dimension and a project management dimension. In the project, the two domains were intertwined. The sequencing of data and action, solving problems, producing knowledge, and other decisions were all interconnected. It was critical to build reflexivity into one's research for understanding the meaning of the data

and consequently the phenomenon being studied. This meant giving up the belief that one research tool would capture a meaningful and useful slice of reality. There was a need for engaging with others to understand meaning, blending sense making with analysis.

4.3 How did role conflicts impact the researchers practice?

The answer to this question within the context of the project is embedded in the above discussion. We focus here on how the learning from the conundrums has influenced the practice of the researchers going forward. One of the researchers, in describing how her practice has changed, described it as "not telling, but being inside; as more actively engaged in meeting with people, asking questions, being in conversation." Another researcher described a similar shift using the term of shifting "from advocacy to inquiry."

The common themes that emerge from discussions about the engaged researcher's practice, both in the latter stages of the VA project and their subsequent projects, are listening, inquiring into the meaning of other peoples comments and getting to know them and the experience they bring, and being comfortable with emergence. The latter is at the center of the epistemic shift that marks their work. One researcher describes it as "dealing with uncontrollability. In the past when I thought things were going in direction other than I expected I thought I had to influence it directly. Now I make a comment, listen, and see where it goes. I create reflection and dialogue spaces to get my concerns on the table along with everyone else's so we can make a collective decision." Another researcher said, "I am less frightened about ambiguity." "I feel free to say, 'I don't know.' I am more comfortable being in situations where I don't know where it's going. We will go together." Another described it as being "not just outside, but being intimately connected" to the others on a project.

Paying attention to conversations is central to their engagement in the research process. Conversations consist of the words and messages spoken (the content dimension) and a pattern of interaction among the participants (the relationship dimension). One researcher commented that "Most people don't have conversations where they're really listening, being very honest or genuine about what's going on, and aware of the parts they're not saying. It's darn hard to work with people to resolve complicated issues unless you're listening and being honest . . ."

How does this come about? It comes through their awareness of and reflection on both "internal" conversations with themselves (structuring their own left hand column) and "external" conversations with others. They describe a conversation in their heads of using the metaphors like the ladder of inference and learning window to question their own thinking and attributions about the process as they experience it.

The challenge that is described by these researchers is one of influencing the development of these kinds of conversations through their own participation, not through external facilitation. In the words of one researcher, he has become "aware of tempering his advocacy." He will frame his comments as "this is what the literature says", but "be open to possible alternative explanations, not being as confrontational as in the past and qualifying my comments."

For these researchers, the role of building reflexivity into the process through conversation and building relationships is critical. This can not be accomplished formulaically. They are mindful of the need for creating learning relationships. Using the various learning practices as mental models, they informally introduce the learning practices asking questions, like "What is your data (or basis) for that statement? Do you know that, or think you know that? They avoid the use of labels and jargon. After they hear others asking the same kind of questions in a natural way, they introduce the terminology to codify the learning. During this

process they strive to remain mindful of their own reactions in a similar way. One researcher describes it this way, "I ask myself, where am I on the ladder when I am interacting with people and find its going some place different than intended. Testing my assumptions has [helped me to be] less anxious about things. If you make assumptions its because you're here to test it." Another stated that, "the ladder of inference helps make meaning out of an experience; trying to understand why we've come from one point to another." The questions they ask center around "what if we did it differently."

5. Conclusion from the experience: Rigor-relationship-relevance[2]

What has become clearer from reflecting on the experience of the project is that the idea of 'relationship' is at the heart of bridging the epistemic divide between rigor and relevance; at least in the context of co-inquiry. Co-inquiry action research as practiced in the VA project was not a controlled experiment, but a process of fostering emergent change. The context of the organization with its diverse population and settings, the diverse project team itself, and the design of product were all highly complex. One needs to learn one's way through complexity to arrive at novel outcomes. (Nicolaides and Yorks 2006). Similarly, the role conundrums were never totally resolved but the researchers learned to learn their way through them. Communicative learning (Shaw 2002) was at the center of this process. Conversation created places for this kind of learning. In the words of one member of the project team, "we can't change the organization's culture, only the conversation that is taking place."

Meaning is emergent in the relationship of making sense of one another's experience and connecting it to other data, taking the form of being in conversation with others in conversation within the process, rather than guiding it from outside the system (Nicolaides and Yorks 2006; Shaw 2002). Practitioners in the project were active contributors to the knowledge creation process, generating several powerful conceptual models, with the academic researchers no longer in an elite role. At the same time academic members generated numerous useful pragmatic suggestions for managing project-related organizational processes.

The nature of the relationship change that took place throughout the project can perhaps be captured by the phrase 'habits of being' (Yorks and Kasl 2002), how one relates holistically to the relationships that are being formed with others and the data. Perhaps not surprisingly, this change toward learning is not confined to the research projects of the academics. The researchers have described how they are engaged in similar ways in other areas of their professional and personal lives. We close with an example from one academic researcher on the project team who describes how being an engaged researcher has changed how he teaches:

> I used to teach as if things were either true or false. I don't do that anymore. Now I talk to people like here's my relationship to what I think this means. What does it mean to you? If it meant this or that, what would show up for us? What could we do with that idea? How could we be more effective? I'm looking to provoke more communicating. In fact, a lot of the stuff I used to know as the 'truth,' at best I'll recognize I only think I know and there's even more that I thought I know that I don't know. So it's been profoundly changing for me personally and professionally.

[2] The idea of rigor—relationship—relevance was first proposed as an interpretative frame for the experience in the project by Rita Kowalski. We also thank her for conversations around complexity.

References

Argyris C (1993) Knowledge for action. San Francisco, Jossey-Bass

Candy P, Harri-Augstein S, Thomas L (1985) Reflection and the self-organized learner: A model of learning conversations. In: Boud D, Keogh R, Walker D (eds) Reflection: turning experience into learning. London, Kogan, Page, pp 100–116

Fox S (1997) From management education and development to the study of management learning. In: Burgoyne J, Reynolds M (eds) Management learning: integrating perspectives in theory and practice. London and Thousand Oaks, CA, Sage, pp 21–37

Gibbons M, Limoges H, Nowotny H, Schwartzman S, Scott P, Trow M (1994) The new production of knowledge: The dynamics of science and research in contemporary societies. London, Sage

Greenwood DJ, Levin M (1998) Introduction to action research: social research for social change. Thousand Oaks, CA, Sage

Harmon J (1999) NSF.1 Draft of proposal to the National Science Foundation

Harmon J (2004) Report to NSF on VA Stress and Aggression Project (Final Draft). Center for Human Resource Management Studies, Fairleigh Dickinson University, Madison, NJ

Harmon J, Kowalski D, Kowalski R, Keashly L, Neuman J, Scaringi J, Yorks L (2000) Reducing workplace stress and aggression to enhance individual and organizational performance. An action research project in the U.S. Veterans Administration, Panel Discussion, M. Beer moderator and discussant. Academy of Management Annual Meeting, Toronto, Canada: August

Heron J (1996) Cooperative inquiry: research into the human condition. London and Thousand Oaks, CA, Sage

Heron J, Reason P (1997). A participatory inquiry paradigm. Qual Inq 3:274–294

Kowalski R, Yorks L, Jelinek M (forthcoming) The workplace stress and aggression project: A reflection on voices and knowing. In: Reason P, Bradbury H (eds) Handbook of action research: participative inquiry and practice, 2nd edn. London and Thousand Oaks, CA, Sage

Kowalski R, Harmon J, Yorks L, Kowalski D (2003) Reducing workplace stress and aggression: An action research project at the U.S. Department of Veterans Affairs. Hum Resour Plann 26:(2) 39–53

Nicolaides A, Yorks L (2006) Implications of complexity theory for co-inquiry for generative learning: The experience of an action research project in the Department of Veteran Affairs. Third Biennial International seminar on the Philosophical, Epistemological and Methodological Implications of Complexity Theory. Instituto de Filosofia, La Habana, Cuba

Nowotny H, Scott P, and Gibbons M (2001) Rethinking science: knowledge and the public in an age of uncertainty. Malden, MA, Blackwell Publishers

Quinn JB (1992) Intelligent enterprise: a knowledge and service based paradigm for industry. New York, Free Press

Reason P (1996). Reflections on the purposes of human inquiry. Qual Inq 2:15–28

Reid-Hector J (2006) Inquiry based learning practices and team learning: a model for experienced based adult learning. Unpublished doctoral dissertation, Teachers College, Columbia University, New York

Shaw P (2002) Changing conversations: a complexity approach to change. London and New York, Routledge

Stacey RD, Griffin D, Shaw P (2000) Complexity and management: fad or radical challenge to systems thinking? London and New York, Routledge

Stewart TA (1997) Intellectual capital: the new wealth of organizations. Garden City, NY, Doubleday

Steier F (1991) Research as self-reflexivity, self-reflexivity as social process. In: Steier F (ed), Research and reflexivity. London and Newbury Park, CA, Sage, pp 1–11

Torbert W (2001) The practice of action inquiry. In: Reason P, Bradbury H (eds) Handbook of action research: participatory inquiry and practice. London and Thousand Oaks, CA, Sage, pp 250–260

Torbert B, Associates (2004) Action inquiry: the power of transformative leadership. San Francisco, Berrett-Koehler

Twomey D, Yorks L, Harmon J (2001) Enhancing organization learning and change through data-driven collaborative inquiry. Symposium on Working along the practice-grounded research continuum. Academy of Management Annual Meeting. Washington, DC: August

Twomey D, Harmon J, Kowalski D, Kowalski R, Yorks L (2002) Discussion of Mode 2 research and the VA Project, British Academy of Management Special Research Forum on Mode 2 Knowledge Production. Organized by University of Glascow, and The University of Strathclyde. Scotland. March

Vaill PB (1996) Learning as a way of being. San Francisco, Jossey-Bass

Yorks L (2005) Adult learning and the generation of new knowledge and meaning: Creating liberating spaces for fostering adult learning through practitioner based collaborative action inquiry. Teachers College Record 107:1217–1244

Yorks L, Aprill A, James L, Ress A, Ospina S, Hoffman-Pinilla A (forthcoming) The tapestry of leadership: lessons from six cooperative inquiry groups of social justice leaders. In: Reason P, Bradbury H (eds) Handbook of action research:participatory inquiry and practice, 2nd edn. London and Thousand Oaks, CA, Sage

Yorks L, Kasl E (2002) Toward a theory and practice for whole-person learning: Reconceptualizing experience and the role of affect. Adult Educ Q 52:176–192

Yorks L, Kowalski D, Scaringi J Kowalski R (2001) Linking knowledge for informing action and actionable knowledge: qualitative research agenda. Academy of Management Annual Meeting. Washington, DC: August

Yorks L, Twomey DF, Keashly L, Neuman J, Kowalski D, Kowalski R, Scaringi J, Petzel RA, and Harmon J (2002) Symposium, How do we know what we think we know? Epistemic challenges of building academic-practice networks. Academy of Management Annual Meeting, Denver, CO: August