

Action Research

<http://arj.sagepub.com/>

Dissenting in reflective conversations: Critical components of doing action research

Pernille Bjørn and Nina Boulus

Action Research 2011 9: 282 originally published online 31 March 2011

DOI: 10.1177/1476750310396949

The online version of this article can be found at:

<http://arj.sagepub.com/content/9/3/282>

Published by:



<http://www.sagepublications.com>

Additional services and information for *Action Research* can be found at:

Email Alerts: <http://arj.sagepub.com/cgi/alerts>

Subscriptions: <http://arj.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

Citations: <http://arj.sagepub.com/content/9/3/282.refs.html>

>> [Version of Record](#) - Aug 26, 2011

[Proof](#) - Apr 5, 2011

[Proof](#) - Mar 31, 2011

[What is This?](#)

Dissenting in reflective conversations: Critical components of doing action research

Pernille Bjørn

IT University of Copenhagen and Simon Fraser University, Denmark

Nina Boulus

IT University of Copenhagen and Simon Fraser University, Denmark

Abstract

Reflective monitoring of research practices is essential. However, we often lack formal training in the practices of doing action research, and descriptions of actual inquiry practice are seldom included in publications. Our aim is to provide a glimpse of self-reflective practices based on our experience of enacting action research. Our engagement in a large action research project brought about many dilemmas and uncertainties related to our roles and interventions. We focus on these uncertainties as a way of opening the 'black box' of action research 'in the making'. We conceptualize a methodological reflective approach that provides space for taking seriously uncertainties experienced in the field as these can be a catalyst for learning and sharpening our theoretical and empirical skills as action researchers. Through first-person inquiry, we investigate how our reflective conversations gradually evolved into second-person inquiry. We argue that enacting second-person reflective conversations renders alternative strategies for handling uncertainties through articulation of the tacit assumptions within particular empirical situations. Finally, we argue that reflective conversations should be understood and handled as iterative, open, and inquiring processes within a trust relationship, and should not be limited to any particular value schemes of action research.

Keywords

action research, first-person inquiry, health care technologies, information systems, role identity, reflective conversations, reflexive research, Science and Technology Studies

Corresponding author:

Pernille Bjørn, IT University of Copenhagen, Rued Langgaards Vej 7, 2300 Copenhagen S, Denmark

Email: pbra@itu.dk

Introduction

Action research offers three modes of self-reflective practices: first-, second-, and third-person action research. First-person action research speaks to the researcher's ability to cultivate a critical approach to her own understanding and research practice, and in general, to her way of being and acting in the world (Heen, 2005; Kemmis & McTaggart, 2003). Second-person action research brings people together to discuss issues of mutual concern and themes of shared interest, and in third-person research, the inquiry is extended to groups too large to engage in face-to-face communication. Recently, grounding action research practice in first-person inquiry has gained growing recognition (Marshall & Mead, 2005), and it has been argued that before we can engage in change processes aimed at improving society, we need to be willing 'to engage in transformation of consciousness and behaviour at personal and interpersonal levels' (Reason & Bradbury, 2006b, p. xxvi). Furthermore, several scholars suggest that first-person research is best supported when conducted in the company of colleagues who can both support and challenge the researcher through a collaborative inquiry process which may evolve into a second-person inquiry (Reason & Bradbury, 2001).

This was the case in the research presented in this article. Here the initial first-person inquiries evolved into second-person inquiry, which stretched over an 18-month period, where we gradually found similarities in the situations we encountered as action researchers working with health care technologies. We reflect upon our own research practice by capturing our continuous dialogues, which were mainly triggered by uncertainties experienced in the field. The two research projects we reflect upon took place in Canada: 1) a three-year study of the implementation of electronic medical records (EMRs) within a community health centre, and 2) a two-year study of the design and configuration of an electronic triage and tracking system within a pediatric emergency department (ED). During both projects, we, as action researchers, encountered different uncertainties related to the dynamics of role identities and interventions, which we systematically used as starting points for reflecting on our own research practices.

This article extends the notion of reflection to include not only reflection on our actions, but also reflection on our own assumptions, thoughts, and beliefs, as these can spark new insights and change our views of the world. In other words, we argue for the importance of reflections not only on the research process itself, but also for the self-development of the researcher. Moreover, we argue that such reflections support the researcher in her interventions hopefully leading to improved practical solutions. We investigate how we evolved from proficient performers to expert action researchers (Dreyfus & Dreyfus, 1986); from applying rules and facts in practice to intuitively acting in practices (Dreyfus, 1997).

We begin by presenting our theoretical and methodological framework, which includes action research and forms of reflective monitoring. Thereafter, we present a brief description of the action research projects, followed by two narratives illustrating the transformations we underwent during the 18 months of our reflective

conversations. Finally, we discuss and conceptualize our methodological technique of second-person reflective conversations, and provide a few concluding remarks.

Theoretical and methodological framework

Action research

Action research has tremendously diverse origins. We follow Reason and Bradbury's (2001) footsteps and use the term action research 'to describe the whole family of approaches to inquiry which are participative, grounded in experience, and action-oriented' (p. xxiv). Accordingly, action research is a framework for inquiry that 'seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people' (Reason & Bradbury, 2006a, p. 1).

Action research has, therefore, fundamental criteria distinguishing it from other traditional academic research as it 'has different *purposes*, is based in different *relationships*, it has different *ways of conceiving knowledge* and its *relation to practice*' (Reason & Bradbury, 2006a, p. 1, emphasis added). Accordingly, we define action research, first and foremost, as having a primary *purpose* of responding to local and practical concerns while producing practical knowledge useful to organizations and communities. The researcher can be seen as a change agent, someone who is directly and intentionally involved in the field while deliberately and actively engaged in a change process aimed at improvement (Walsham, 2006). Second, action research is founded on a *collaborative* and *participatory* research process (Greenwood & Levin, 1998) in which the degree of involvement of practitioners varies, ranging from consultation with practitioners to close collaboration in all stages of the shared project (Peters & Robinson, 1984). Hence, in contrast to traditional research where the researcher is solely responsible for determining research design, action research invites practitioners into the research process. Third, action research draws upon 'extended epistemology', as it extends ways of *knowing* beyond the theoretical knowledge of academia (Heron & Reason, 2001). Finally, action research has a different relation to *practice* as it concerns concrete practices of specific people in specific places (Kemmis & McTaggart, 2003). Thus, the aim of action research is not to develop theory that can stand above practice, but rather to develop theory that is grounded in the particularities of the specific situations that practitioners confront.

Reflective monitoring

A very critical activity in action research is the stage of reflection where 'the researcher and participants engage in collective interpretation of the findings and contemplate what can be learned from the experiences' (Lau, 1997, p. 52). While the quote above focuses on reflections related to the *object of study*, we will focus on the *method* used for studying the object. Focusing on the method used rather

than on the *findings* or *end-product* of the research (e.g. health care technologies) leads us behind the stage and gives us a glimpse of the actual research *process*, meaning the work that went into constructing the project, making it function as a coherent whole. Accordingly, we aim to question the tacit and obvious (Polanyi, 1997) aspects of action research practices and thus articulate the otherwise invisible aspects of research.

Reflective monitoring of research practices is obviously important; still, it is unclear what 'reflective monitoring' actually entails. This may be related to the fact that we often lack formal training in the practicalities of doing action research (Heen, 2005) and to the fact that descriptions of actual practice are seldom included in action research publications (Marshall & Mead, 2005). The aim of this article is, therefore, to provide a glimpse to the process of self-reflective practices based on our experience of enacting action research and reflecting on these experiences together with another action researcher. Furthermore, we wish to articulate the researcher's transformation when embracing empirical uncertainties and using them as a catalyst for learning and sharpening our theoretical views on action research.

We, therefore, embrace the responsibility of reflecting upon our own research practices and study the process of action research 'in the making'. This approach is inspired by Latour's influential book *Science in action* (1987), where he studies how scientific theories and facts are constructed. Latour traces the web of associations between controversies, statements, and artifacts by following scientists inside and outside of their laboratories as they collect allies. This approach is based on the premise that the black box of science should be opened and that scientific theories should be subjected to critical scrutiny. The examination is conducted by a dissenter whose main role is to question decisions made by the majority and how claims become taken for granted 'true' facts. We apply this approach of research in the making and investigate ourselves as action researchers engaged in reflective monitoring of our own practices.

Reflective monitoring involves a critical endeavor and interest into the practical situation. Critical interest refers to reflections through questioning the taken-for-granted assumptions, feelings, beliefs, and actions within a particular situation (Ross & Hannay, 1986). A reflective thought constitutes an 'active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends' (Dewey, 1910, p. 6). Reflections are, therefore, not coincidental thoughts, but rather careful considerations of an experienced state of uncertainty or doubt without clear suggestions for action. Reflective thinking involves: '(a) a state of perplexity, hesitation, doubt; and (b) an act of search or investigation directed toward bringing to light further facts which serve to corroborate or to nullify the suggested belief' (Dewey, 1910, p. 9). This requires that we willingly endure a condition of puzzlement or disturbance triggered by uncertainties faced in the field. The aim of reflective activity is to search and evaluate alternative suggestions for solving perplexity in a situation where experience and prior knowledge cannot supply a solution but only a suggestion.

We will illustrate how we performed the reflective activities by adopting the role of the dissenter and challenging each others practice. Since we shared an office space at the university, we were able to conduct these reflective conversations as often as was needed and was possible within our work schedules. This often resulted in weekly or biweekly meetings. We initially began our conversations by questioning each other's definitions of action research while focusing on how it should normatively be carried out following pre-defined principles and fairly fixed criteria found within much of the Information Systems (IS) literature about action research. This includes, for example, different sets of criteria to assure rigor and relevance (Davison, Martinsons, & Kock, 2004), to avoid ambiguity or uncertainty (Mumford, 2001) and control action research (Avison, Baskerville, & Myers, 2001).

Our reflective conversations about the above-mentioned normative principles turned out to be somewhat unfruitful as they left little space for discussing particular ways to deal with the empirical uncertainties faced in the field. We therefore changed the focus from discussing how our research projects *should have* unfolded to how they unfolded *in practice*. We gradually noticed that we were so immersed in the field that we feared being unable to step out of the context and reflect on our roles and interventions. We therefore decided to critically challenge each other's practice as action researchers, and we conducted several interviews with each other to capture our methodological discussions. Conducting interviews allowed us to semi-structure our conversations and discuss particular issues across the empirical cases (these issues will be delineated in the discussion). Recording these interviews allowed us to capture the ways in which our views on action research evolved as we gradually became more critical and circumspect toward our own roles and research practices.

We used these interviews, together with our individual ongoing memos concerning our research process, to encapsulate reflections of our fieldwork experiences. These memos are what Latour (2005) calls notebooks for feelings from the field where one 'document[s] the transformation one undergoes by doing the travel [including, for instance,] appointments, reactions to the study by others, surprises to the strangeness of the field' (p. 134). From these data, we generated narratives and trajectories of the research engagements, illustrating the transformation of our roles and positions during our fieldwork. In this article we offer these narratives with the aim of opening the black box of action research projects.

The empirical narratives

The empirical studies presented here were part of a \$3 million research project funded by the Social Sciences and Humanities Research Council of Canada (SSHRC). This large international research project investigated the role of technology in the production, consumption, and use of health information in various settings and explored, for example, issues health care practitioners encounter as their work becomes increasingly computerized. Both authors were paid by the research project as research assistants (Post-doctoral fellow and PhD student)

employed by a university. The action research projects aimed to contribute *both* to the practical concerns of the health care practitioners who were in an immediate problematic situation (designing and adapting the new technology into their work practices), and to the goals of social science (developing socio-technical approaches to design and adaptation of technology) through joint collaborations with practitioners (Rapoport, 1970). Thus, each author participated separately in a project with a particular health care organization that was implementing a different technology. The roles that each one of us occupied were similar, to some degree, as we both had the initial aim of actively supporting the adaptation process of the new technologies; however, the way in which the actual interventions took place varied between the projects. Nevertheless, outcomes from both research projects were expected to be beneficial both for the partners and for research. Table 1 provides an overview of the collaborative partners and the researcher's interventions in each project.

The analysis provides two narratives, each constituting short snapshots from the researchers' field notes and reflections from the second-person conversations we conducted with each other. These snapshots follow a rather confessional style with the aim to convey impression of the inquiry *in process* and recreate the sense of uncertainty encountered by the researcher. Confessional accounts rest on the testimonies of personal fieldwork experiences where the researcher exposes herself, rendering her actions and failings open to critique (Schultze, 2000). Confessionals are notoriously sensitive, with an attempt to explicitly demystify fieldwork by showing how it is practiced in the field and including mundane but unexpected incidents that spark new insights (Van Maanen, 1988). The following field note snapshots were chosen because they represent incidents of encountered uncertainties that embody crucial turning points in the trajectory of the research collaborations. As will be illustrated later, these incidents encountered across the projects share certain qualities, the most important one being the emerging gap between the researcher's and the practitioners' expectations concerning the researcher's roles and interventions. We used these incidents of uncertainties as starting points for a deeper and more constructive discussion about what the incidents meant and what were their implications. The structure of the analysis is based on the chronological order of the events that occurred during the fieldwork, in order to illustrate how experienced uncertainties were transformed to balance the dynamics of roles within the research projects.

The EMR study

The beginning of an uncertain journey. Initially, when the researcher joined the project, the clinic was about to implement an EMR system to replace their paper charts. Accordingly, the research collaboration is based on the understanding that the researcher will be provided with the opportunity to investigate the introduction of a new EMR system, and will in turn assist the clinic with technical issues arising during the adaptation process. Early on, the clinic expresses an interest in learning

Table 1. The action research projects

	EMR study	EDIS study
Collaborative partners	Community health centre: a nonprofit clinic	Emergency department at a pediatric hospital
Patients	5000 high-risk patients	38,000 children
Healthcare practitioners	6–8 physicians	20 physicians
	2 nurses	75 registered nurses
	6 clinic staff	
Setting	Implementing an EMR system	Designing and implementing an emergency department information system (EDIS)
Researcher's interventions		
Designing and adapting technologies	Active participation in 29 meetings organized by a special EMR committee (consisting of representatives from different professional groups), that discussed challenges and defined new goals for the use of EMR	Active participation in 22 design workshops over a seven-month period (132 h in total). Workshops focused on articulating existing work practices and reconfiguring the electronic triage and tracking system
Interviews	11 Clinic staff 22 Patients from the clinic 2 The vendor and a decision maker 5 Staff from 5 other clinics	3 The clinical nurse educator 3 The emergency program manager 1 The clinic information officer 1 Group interview 39 Informal interviews with 39 ED staff
Participant observations	10 sessions (22 h)	23 sessions (98 h)
Other	Formal and informal meetings with clinic staff and the vendor 3 EMR training sessions 5 seminars (29 h) organized by the health authority and by the vendor	Informal conversations with the ED manager, the clinical nurse educator, nurses, clerks, and physicians

from previous experiences of EMR implementations in other clinics. Therefore, the researcher conducts interviews with staff from other clinics and creates a technical report summarizing the experiences and lessons learned. Thereafter, the clinic wanted to inform their patients of the new EMR. The researcher conducts several

long meetings with the clinic to plan the patient study and confirm the interview questions. After conducting the patient interviews, the researcher writes a brief technical report and creates flyers with educational material addressing the EMR concerns mentioned during the interviews. The researcher is then invited to participate in EMR training sessions and attend meetings with the vendor and seminars organized by the health authority. In the first seminar, she is proudly presented by the clinic director to the vendor and the health authority as ‘their’ researcher. The researcher views the close attachment to, and collaboration with, the clinic as part of the process of strengthening the trust relationship between herself and the clinic.

The last nine months have indeed been an interesting, yet somewhat cumbersome, journey. I feel my collaboration with the clinic has improved and strengthened. My primary contacts keep me posted about issues related to the EMR, invite me to various meetings and seminars, as well as introduce me to key actors from other organizations. I have studied other clinics’ experiences of EMR implementations, health authority decisions, and patients’ perspectives on EMRs. However, all these activities do not directly address the clinic’s implementation of EMR. How can I study the EMR implementation in the clinic without talking to the staff and observing them use the EMR in practice? (EMR study, May 2005)

The researcher adopts multiple roles depending on the clinic’s interest at certain points in time. Each of these roles influences the way she is perceived by the health care staff and the type of information they share with her. When she interviews staff from other clinics, some interviewees perceive her as a community clinic staff member, thus choosing to share selectively their success stories rather than their challenges. When attending the second seminar organized by the health authority, her nametag changes from ‘clinic researcher’ (a representative of the clinic) to ‘EMR consultant’ (an expert of the system). The nametag was chosen presumably by her primary contacts from the clinic when they registered her for the seminar, thus giving an impression of how the collaborative partner perceived the researcher. Occupying these various roles and carrying the different titles *outside* the clinic is not perceived as particularly problematic by the researcher. However, later, when the researcher wants to investigate the implementation of the EMR *within* the clinic, uncertainties emerge.

Negotiating access

I have been trying to remind my primary contacts at the clinic that I need to observe and interview the clinic staff. My main contacts, the executive director, is retiring and is busy finishing tasks and training his replacement. Moreover, staff replacements and technical changes are taking place. These factors make it difficult for me to continue the research collaboration. Lack of communication between the retiring and new director of the clinic, and between them and the clinic staff, has triggered

misunderstandings, mixed expectations, and even defensive reactions. What I say gets lost in translation, and I feel trapped between organizational conflicts and internal political issues. (EMR study, August 2005)

The multiple technological and organizational changes that take place in the clinic in the upcoming three months influence the research project. The researcher is challenged by unstable communication channels and she is becoming increasingly concerned about the future of her fieldwork. She has now been waiting for nearly a year to be allowed to study the actual EMR implementation *within* the clinic. She decides to take this issue seriously and schedules a meeting with both the retiring and the new director. In this meeting, the researcher clarifies carefully and explicitly her role in the clinic and she reminds both executive directors about the original research agenda upon which the partnership was based. According to this dual agenda, the researcher would not only support the practical implementation of the EMR, but she would also be provided with the opportunity to study the actual implementation. She has, thus far, fulfilled the first part of the research agenda – the part that has practical relevance for the clinic, but now she has to get back to the original focus of conducting an in-depth study of the EMR implementation in the clinic. Therefore, she repeatedly explains the importance of conducting formal interviews with the staff in order to learn about their local and situated work practices.

It's been a year and a half since I joined the project and more than half a year since I last had my meeting with both executive directors. I still did not receive any confirmation allowing me to interview or observe within the clinic. This is my second summer in the project and I was hoping to begin collecting data, because it is only during the summer that I can work full-time [. . .] Meanwhile, I was asked to become a member of the EMR committee. I decided to adopt this role as it seems that this is the only way for me to gain indirect access to the field and collect data related to the actual use of the EMR in the clinic. (EMR study, May 2006)

The researcher views the invitation to attend the EMR meetings as a way to ensure preventing complete loss of access to the field. Since she was unable to conduct interviews and observations, she saw the EMR meetings as something that would enable her to *study practice while being away from practice*. She participates actively in these meetings and later becomes chair and minute taker. The EMR meetings provide her with access to the complex process of 'practice in the making', as she sees how the paper-based practices are gradually replaced with new EMR-mediated practices. She begins using the observation notes from the EMR meetings as empirical data, tracking the trajectory of issues discussed.

Transforming the uncertainty and stepping into the academic character

Reading my observation data collected during my one-year participation in the EMR meetings, I notice that previously discussed issues faded away from the agenda.

I wonder why these issues disappeared and how were they resolved in practice? (EMR study, May 2007)

The EMR meetings provide only limited access for the researcher to investigate the technology use. She feels uneasy writing *about* the clinic without having the direct voice of the practitioners, particularly those who were not members of the EMR committee. Furthermore, there are issues in her data which require clarifications through observations and interviews (e.g. verifying whether particular decisions made during the EMR meetings were implemented in practice). The researcher wants to know about possible gaps between the planned actions and the situated work practices. The partial access to the field also limited the data gathered, which included primarily detailed descriptions of challenges debated during the EMR meetings, but nothing concerning possible benefits or positive perspectives related to the EMR.

The researcher requests a meeting with the new executive director (who has now been with the clinic for nearly a year) to remind him that this is the last summer before the research project ends, and expresses explicitly the need to conduct observations and interviews in order to enable stronger grounding of observations from the EMR meetings with the locally situated practices in the clinic. The researcher needs to ensure that her findings are verified and based not merely on what people 'say', but also on 'seeing' the actual use of technology (Blomberg, Giacomini, Mosher, & Swenton-Hall, 1993). This issue is brought up during a reflective conversation where the researcher realizes she has to leave her role as an 'EMR consultant' and step back into the role of the academic researcher which allows her to determine methodological decisions related to the data and her fieldwork. As an 'EMR consultant', the focus was continuously modified to respond to the clinic's emerging requests; and as a collaborative partner, the clinic had a greater degree of involvement in decisions regarding the research. Thus, by stepping back into the role of the academic researcher, she wanted to regain the space that would allow her to determine methodological issues related to the importance of verifying the data collected, ensuring balanced accounts and sufficient variety of interviewees and perspectives. Since that meeting with the executive director, the research collaboration has improved drastically, and in spite of the two-year delay, the researcher is now able to conduct interviews and observations within the clinic.

As can be noted from the above, it took a fairly long time for the researcher to find a workable solution to the problem of access to the field. This is partially because the researcher was facing challenges contacting the new executive director who was struggling with identifying his new role in a clinic followed by multiple organizational and technological changes during this period. The new director spent a considerable amount of time getting to know the organization, his tasks and responsibilities, leaving little space for research engagement. The researcher decides to wait and spends this period analyzing her observation notes from the EMR meetings and being heavily involved in finding solutions to practical problems raised during the EMR meetings.

The ED study

Becoming 'one of them'

I have now been working with the ED for almost a year, and these last couple of months has been amazing. I visit the hospital at least one day a week, participate in workshops, conduct interviews, and observe work practices. I have a good relationship with the nurses and am proud to be helping them. I was told today that the team of nurses working on this project is now being labeled 'the Fab Five' [referring to the comic book super heroes the Fabulous Five]. When I asked, 'Who is the fifth,' they replied, 'You are.' (ED study, October 2007)

In the first year of collaboration with the ED, the researcher does extensive observations of the work practices, as well as participates in weekly events such as meetings and design workshops. During observations, she notices aspects of the work practices otherwise invisible to the staff, and as an active participant in the design workshops, she brings potential conflicting issues between the new electronic system and the existing work practices to the table. This creates a strong bond between the ED and the researcher, and during the first ten months the researcher becomes a part of the core team: The Fabulous Five.

The researcher brings up the issue of becoming 'one of the Fab Five' during a reflective conversation because it forms an uncertainty about her role. It is indeed complementary that the nurses viewed the researcher as 'one of them'. She could celebrate this somewhat official acceptance to the team, viewing it as the result of extensive fieldwork and strong dedication to her work with the nurses. However, it also raises the fear that the researcher is so immersed in the field that she might be sacrificing the critical distance for reflection (Davison et al., 2004; Forsythe, 1999). Rather than simply celebrating that the researcher is now 'one of them', or debating action research guidelines, we turn this incident into a subject of inquiry and reflect upon the potential implications for the researcher's role and opportunities for intervention.

The struggle of conflicting roles

We are planning the training of the new system. First we thought we would get trainers from the health authority, since they have done it previously. However, we made so many changes and revisions to the system that it looks quite different from the original system. It is only those who have been participating in all the workshops that can teach the system, which means the Fab Five. They asked me to help teach the system. I want to help, so I said yes. But what are the implications of me doing the training? (ED study, November 2007)

Realizing that she is one of the Fab Five prompts the researcher to question whether she should accept the trainer role. Since the electronic system was

reconfigured during the 22 design workshops, it is now a customized configuration of the original generic system. This means that the former trainers from the health authority cannot teach the system because they are not familiar with all the changes or the work practices related to the design. Only the core group of people knows the system well enough to teach it, and this group is the Fab Five.

The emerging conflict and uncertainty involves the wish to help the practitioners by volunteering as a trainer. The researcher can easily provide training because she is very familiar with the changes in both the system and the work practices. She can support the core group with training the nearly 100 ED staff. However, by teaching the system, the researcher would be advocating for the system. The researcher is careful never to evaluate the design and work practice. Instead, she suggests and prompts potential problematic issues for others to discuss when deciding the best design possibilities under the constraints that always exist within software design. By advocating for the system, she risks losing her critical distance. While the other four of the Fab Five hold hospital positions and are known by the other ED staff, most of the ED staff do not know the researcher. Therefore, instead of being perceived as an academic researcher collaborating with the ED, she could easily be mistaken as a vendor representative. This misperception would greatly impact post-training observation activities.

I said no to the training. It would jeopardize my role as an observer after the go-live date. Now we are planning user testing, and I was asked if I could test the system next week. But how can I do user testing when I am not a user? I am not even educated as a nurse, so how could I act as one? (ED study, January 2008)

Although the researcher initially accepts the training role, she later resigns, carefully explaining why training would conflict with her role as a researcher. Not long after, another conflict emerges, this time related to user testing. User testing is planned by the hospital's technical personnel who do not participate in the design workshops and thus do not know the researcher. The technical personnel consider the Fab Five, which includes the researcher, to be the most appropriate group to test the system. The researcher cannot represent the user group; she is not educated as a nurse and cannot stage a typical triage encounter in a busy ED. The researcher turns down the user-testing request, again carefully explaining that the results would not be reflective of an actual prospective user and would thus be questionable. Grounded in reflections on experienced uncertainties, the researcher turns down training and testing to distance herself from the Fab Five.

Negotiating compromises

The first part of the system went live today, and I went to the hospital for the first time in a month. I am still very welcomed and it is good to see everybody. However, I feel that I am no longer part of the core team. I am a mixture of an insider and an outsider.

I no longer know every detail of the project. It is difficult to observe the implementation because of the many people crammed into a little space performing the roles of super-users. Although no one said anything, I feel I am kind of in the way. (ED study, March 2008)

The researcher returns to the ED a month later on the go-live date to observe the gradual implementation of the electronic system. She experiences for the first time how the distance she recently created influences her relationship with the ED. She is still welcomed, but no longer has the role she gained during the workshops. The conceptual distance created when the researcher stepped out of the Fab Five has transformed her into a relative outsider. Furthermore, the space around the triage desk where the researcher normally sits during observations is now being occupied by a system super-user. Not only did the researcher lose her former 'territory' (observation space), she is also challenged with finding new space from which she can observe. The front space of the triage area, which also provides a view of the triage work, is being occupied by a technical supporter. This greatly limits her ability to observe the initial use of the new system as she cannot sit close to the triage nurse. After two days of observations, the researcher decides to postpone future observations until the super-user and technical supporter occupying 'her space' have left.

The distance created between the researcher and the practitioners by turning down the roles of trainer and super-user influences the opportunities for post-implementation observations in a most physical sense: lack of space. If she had not distanced herself from practice, the opportunities to observe would be impacted anyway, although in a different way: being perceived as a vendor representative. The question is how to balance the roles of outsider and insider, having the distance while preserving close access to the field? The researcher raises this uncertainty during the reflective conversations and finds a way to address this issue through a compromise. Accordingly, the researcher volunteers as an application specialist during the second phase of the implementation. During this phase, there will be both super-users and application specialists placed at strategic locations in the ED. Both roles have extensive system knowledge, but whereas the super-user is a nurse, the application specialist is a non-nurse. By volunteering as application specialist, the researcher is 'taking her space back'. She will be in the front row for the implementation with good opportunities for data collection, ready to answer questions about the functionality of the system, with the risk, however, of being perceived as a vendor representative.

Discussion

We developed a format for performing second-person inquiry reflecting upon our interventions and roles as action researchers investigating socio-technical aspects of health care IT. These reflective conversations provided us with the space to unpack complexities and discuss uncertainties faced in the field. As can be seen from Table 2 the reflections also provided us with the space to identify similar patterns across the research projects. The reflective conversations in the ED study were

Table 2. Patterns and topics across research projects

Agendas/topics	EMR study	ED study
Research agenda	General agenda which may have been one of the reasons for some of the challenges faced in the field	Clear agenda formulated at the beginning of the research collaboration stating explicitly the roles of the researcher
Premises for field access	Supporting the adaptation of EMR	Supporting the design and adaptation of EDIS
Becoming 'an insider'	Introduced as the clinic's researcher to the health authority and the vendor	Introduced as one of the Fab Five
Juggling multiple conflicting roles	The 'clinic's researcher', EMR consultant, member of the EMR committee, academic researcher	A member of the Fab Five group, trainer, application specialist, academic researcher
Past roles/interventions impacting future roles	Being introduced as the clinic's researcher role of an 'inspector' from previous setting followed the researcher to the clinic and lead to misunderstandings about her role as researcher	Participating in design workshops constructed an identity of someone knowledgeable about work practices within the ED
Particular roles associate the researcher with particular groups, influencing data collection	Being perceived as 'the clinic's researcher' might lead interviewees to selectively share successful stories.	Becoming a trainer might lead staff to perceive the researcher as a vendor representative and withhold information about challenges, thus constraining data collection
	Being perceived as an 'EMR consultant' might lead interviewees to associate the research with someone who is advocating for the system	
Emerging changes in the field setting	Level of access, staff changes, organizational and technical changes, roles and expectations	Roles and expectations
Practical strategies for dealing with empirical uncertainties	Participating in EMR meetings to prevent losing access to the field and to gain indirect access to data on EMR use	Becoming an application specialist to avoid being associated with the vendor and actual users of the system (the nurses), and to secure her observation space in the second phase of the implementation of EDIS

(continued)

Table 2. Continued

Agendas/topics	EMR study	ED study
	Sending meeting minutes to all staff to ensure transparency of action researcher's tasks, creating flyers to state the research purpose, attending meetings to be reintroduced to all staff, requesting meetings with executive directors	
Need for academic distance	Stepping out of 'EMR-consultant' and back to the role of the academic researcher – someone who makes decisions regarding methodological issues	Stepping out of the Fab Five by turning down the training and user-testing position
A period of mourning after creating a distance and loss of 'the insider status'	Struggling with regaining access to the field – negotiating it through redefinition of roles (e.g. EMR committee member, academic researcher)	Struggling with reconstructing her spatial space for observations – negotiating access through redefinition of roles and positions (e.g. user-tester, trainer, application specialist)

conducted simultaneously with the fieldwork, and therefore resulted in practical adaptations and reconfigurations of the researcher's roles while in the field. The conversations in the EMR study were conducted toward the end of the fieldwork and resulted in insights which were applied retrospectively to the case and which contributed to a better understanding of what happened in the field. Furthermore, some of the lessons learned in the EMR study were applied to the ED study.

Initially our reflective conversations focused on normative criteria for action research (e.g. Avison et al., 2001). Typically, one of us would describe an incident experienced during the fieldwork, which would lead to a greater debate about the foundations of action research. These debates were rather limiting and in terms of identifying alternative strategies for dealing with the experienced uncertainties. Our reflective conversations evolved gradually, drifting away from debating existing normative criteria to focusing on unpacking empirical complexities faced in the field. However, simply welcoming complexities does not help us in developing alternative practical strategies for handling uncertainties. It does not contribute to articulating and expanding our understanding of what actually goes on when conducting action research in practice.

The third phase of our conversations changed everything. We adopted the role of a dissenter (Latour, 1987) following each others' journeys into the 'lab of the clinic' and the 'lab of the emergency department'. We noticed and questioned aspects of the fieldwork narratives – such as how the researcher's connection to the 'Fab Five' influenced her roles as researcher – that were otherwise invisible.

This enabled us to create academic and analytical distance between our research practice and ourselves. This distance was crucial as it enables us to identify alternative strategies for dealing with experienced uncertainties. We found that defining new ways of handling uncertainties must include reflections on the otherwise tacit and invisible knowledge of the situations. As Forsythe (1999) boldly points out: the most qualified field researcher is an outsider with considerable insider knowledge. This naturally depends upon the nature of the particular research endeavor, but in both projects we gained increasingly insider knowledge while gradually becoming less of an outsider. We were in the process of ‘going native’. The reflective conversations created analytic distance between the field site and us; the conversations helped us remain outsiders – outsiders with considerable insider knowledge.

The reflective conversations also helped rendering alternative strategies for handling uncertainties. This was the case, for example, where both researchers alternated between a rather passive observer and a more engaged participant. The passive observer role might imply losing access to central observation locations. However, the active and engaged participant role (e.g. EMR consultant or ED technical supporter) allows us to claim the right for central observation spots and increase our access to empirical data. Spatial awareness thus includes reflections on the researcher’s physical positioning during observations and how previous roles and interventions influenced this position.

The reflective conversations included topics which occurred across both studies, listed in Table 2. For each of these topics, the dissenter would formulate questions often starting with ‘what’ and ‘why’, focusing on interpreting the *meaning* behind the different incidents. Throughout the process of our conversations we went

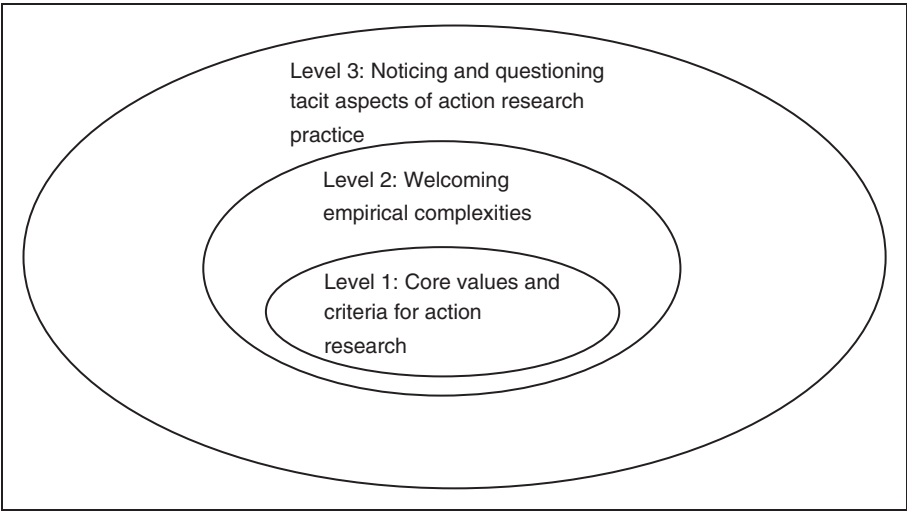


Figure 1. Three levels in reflective second-person conversations

through three levels of abstraction. As illustrated in Figure 1, at the first initial level, we discussed only the criteria for action research, judging whether each others' intervention fulfilled these criteria. At the second level we embraced the empirical complexities by investigating concepts used by the interviewee getting a deeper level of understanding. Finally, at the third level of abstraction, we went a step deeper into the experienced complexities by comparing earlier discussions with new experiences as well as noticing and questioning the tacit aspects of action research *practice*. Developing conversations that reaches the third level requires time. Thus, time is obviously a factor in the model, beginning at the inner circle and ending at the outer circle in an iterative manner.

Moving between levels within our reflective conversations reflects also a process where we gradually transitioned from proficient performers to competent experts, improving and expanding our novice and purely rule/theory-based actions with intuitive practice-based behavior. Instead of following rules of conduct experts deliberately draw upon detached observations of one's intuitive behavior (Dreyfus, 1988, 1997). Transitioning from novice to competent action researchers requires time and

Table 3. Questions asked during second-person reflective conversations accordantly to levels

Levels	Questions
Level 1: Core values and criteria for action research	'In the fall you decided to call your engagement with the clinic action research, but you talked about how there were different types of action research. What are the differences across fields and disciplines?'
Level 2: Welcoming empirical complexities	'Do you feel that at times you are going native? Saying "we", and now you're being labeled as "the Fabulous Five" by the other nurses? How do you feel about that?' 'Why don't you want to be a trainer? What concerns do you have?'
Level 3: Noticing and questioning tacit aspects of action research practice	'The other day you seemed concerned because you had too many workshops to attend and didn't have time to write articles. How do you balance between your "academic work" and your work in the hospital?' 'You once told me that one of the challenges of being an action researcher at the clinic was that you, in the very beginning, were presented by the principle investigator as a computer scientist – can you tell me about how that was a problem?' 'You used your previous experience and knowledge to advise the ED, for e.g. to remove some fields and to alert them when you foresee problematic situations. How do you feel about receiving such a high level of responsibility? Do you have any concerns about your close engagement? What if your advice turns out to be wrong?'

reflection detached from the practical endeavors. Our reflective conversations created such a space which enabled us to grow as action researchers.

Table 3 provides examples of the type of questions asked across the three different levels during the reflective conversations. All the questions were discussed on a pragmatic and concrete level as well as on a more general methodological level. At level 3, the tacit assumptions questioned formed core issues related to action research practice, such as the challenge of balancing academic work and practical interventions or dealing with possible failures of practical advices provided by the researcher. One main assumption in action research is that the researcher must balance the practical interventions and academic work, however the way in which this balance is achieved is seldom questioned. Another main assumption comprises that the action researcher is supposed to provide suggestions and solutions to practical problems, however it is seldom questioned how the action researcher should deal with situations where the recommendations fail. The assumptions become tacit, something we simply take for granted without reflecting upon the challenges encountered. Thus, the main contribution of the reflective conversations for the practice of conducting action research was questioning the tacit assumption using concrete empirical experiences and complexities, and together creates new alternative strategies to deal with practical issues without jeopardizing the academic endeavor of the project. This reflection requires the willingness to be open, to question, and to negotiate how action research is performed. Giving each other a trustworthy space for reflection and argumentation, which nurtures learning and is free from judgmental or hostile views, we can turn uncertainties into fruitful and useful reflections, providing new alternative strategies for handling roles and interventions.

Conclusion

Over an 18-month period we exchanged countless reflective conversations discussing action research, tracing various definitions and views embedded within our practice. We gradually drifted away from debating how action research is normatively supposed to be conducted to discussing how it is actually performed in practice. We traced the various interventions and articulated the uncertainties that occurred during our two projects. Rather than ignoring these uncertainties or passively accepting them as inherent elements in action research, we turned them into the focus of our research inquiry. We wanted to learn from these uncertainties and, in a constructive manner, identify new alternative strategies for handling them. Reflective thinking involves adopting the role of a dissenter when examining and interpreting experienced uncertainties with the aim of shedding light on further facts that serve either to corroborate or nullify the suggested belief (Dewey, 1910). When reflecting, we can only make sense of our experiences through the language and discourse that we already have and use (Boland & Lyytinen, 2004). Initially, our language and discourses formed the value schemes of different streams in action research, which restricted our reflective conversations to focusing on what is considered as 'right' and 'wrong' rather than open-ended reflections.

Over time our reflective episodes evolved into second-person reflective conversations where we managed to transform and expand our vocabulary in a more constructive manner. Enacting reflective conversations rendered alternative strategies for handling uncertainties through articulation of the tacit assumptions within particular empirical situations. In this perspective, second-person reflective conversations should be handled as iterative, open, and inquisitive processes detached from particular value schemes. Through this reflexive and critical stance toward our research experiences, we were able to construct and re-construct our vocabulary, thus expanding the opportunities for action (Boland & Lyytinen, 2004). We argue that good action research should not adhere slavishly to particular value schemes, but rather take seriously empirical uncertainties. In this article we demonstrate a refined ability to apply value schemes in an emergent and contextual manner. We intentionally and willingly focus on the particularities of the situations and embrace emerging uncertainties. Uncertainties become a source of curiosity rather than anxiety, as they allow us to develop our own sense of self-awareness and expand our skills as researchers.

Acknowledgments

This study is a part of the research project ACTION for Health, funded by the Social Sciences and Humanities Research Council of Canada, Grant #512-2003-1017, titled 'The role of technology in the production, consumption and use of health information: Implications for policy and practice' with contributions from Simon Fraser University and Vancouver General Hospital.

We thank Marianne Kristiansen for leading the review process for the author of this paper. Should you have comments/reactions you wish to share, please bring them to the interactive portion of our website: <http://arj.sagepub.com>.

References

- Avison, D., Baskerville, R., & Myers, M. (2001). Controlling action research projects. *Information Technology & People*, 14(1), 28–45.
- Blomberg, J., Giacomini, J., Mosher, A., & Swenton-Hall, P. (1993). Ethnographic field methods and their relation to design. In D. Schuler & A. Namioka (Eds.), *Participatory design: Principles and practices* (pp. 123–155). London: Lawrence Erlbaum Associates Publisher.
- Boland, R., & Lyytinen, K. (2004). Information systems research as design: Identity, process, and narrative. *Information Systems Research*, 14(3), 53–68.
- Davison, R. M., Martinsons, M. G., & Kock, N. (2004). Principles of canonical action research. *Information Systems Journal*, 14, 65–86.
- Dewey, J. (1910). What is thought?. *How we think* (pp. 1–13). New York: Columbia University Press/Lexington, MA: D C Heath.
- Dreyfus, H. (1988). The Socratic and Platonic basis of cognitivism. *AI & Society*, 2, 99–112.
- Dreyfus, H. (1997). Intuitive, deliberative and calculative models of expert performance. In C. Zsombok & G. Klein (Eds.), *Naturalistic decision making* (pp. 17–28). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

- Dreyfus, H., & Dreyfus, S. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. New York: The Free Press, a division of Macmillan, Inc.
- Forsythe, D. (1999). It's just a matter of common sense: Ethnography as invisible work. *Computer Supported Cooperative Work (CSCW): An International Journal*, 8, 127–145.
- Greenwood, J. D., & Levin, M. (1998). *Introduction to action research: Social research for social change*. Thousand Oaks, CA, London and New Delhi: SAGE.
- Heen, H. (2005). About feelings in action research: An experiment in first-person inquiry. *Action Research*, 3(3), 263–278.
- Heron, J., & Reason, P. (2001). The practice of co-operative inquiry: Research 'with' rather than 'on' people. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. 179–188). London: SAGE.
- Kemmis, S., & McTaggart, R. (2003). Participatory action research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* (2nd ed., pp. 336–396). London, New Delhi and Thousand Oaks, CA: SAGE.
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, MA: Harvard University Press.
- Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford: Oxford University Press.
- Lau, F. (1997). A review on the use of action research in information systems studies. In A. Lee, J. Liebenau & J. DeGross (Eds.), *Information systems and qualitative research* (pp. 31–68). New York: Springer.
- Marshall, J., & Mead, G. (2005). Editorial: Self-reflective practice and first-person action research. *Action Research*, 3(3), 235–244.
- Mumford, E. (2001). Advice for an action researcher. *Information Technology & People*, 14(1), 12–27.
- Peters, M., & Robinson, V. (1984). The origins and status of action research. *The Journal of Applied Behavioral Science*, 20(2), 113–124.
- Polanyi, M. (1997). Tacit knowledge. In L. Prusak (Ed.), *Knowledge in organizations* (pp. 135–146). Oxford: Butterworth-Heinemann.
- Rapoport, R. N. (1970). Three dilemmas in action research. *Human Relations*, 23(6), 499–513.
- Reason, P., & Bradbury, H. (2001). Preface. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. xxiii–xxx). Thousand Oaks, CA: SAGE.
- Reason, P., & Bradbury, H. (2006a). Introduction: Inquiry and participation in search of a world worthy of human aspiration. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. 1–14). Thousand Oaks, CA: SAGE.
- Reason, P., & Bradbury, H. (2006b). Preface. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp. xxi–xxxii). Thousand Oaks, CA: SAGE.
- Ross, E. W., & Hannay, L. (1986). Towards a critical theory of reflective inquiry: Theme. *Journal of Teacher Education*, 37(9), 9–15.
- Schultze, U. (2000). A confessional account of an ethnography about knowledge work. *MIS Quarterly*, 24(1), 3–41.

- Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. Chicago, IL and London: The University of Chicago Press.
- Walsham, G. (2006). Doing interpretative research. *European Journal of Information Systems*, 15, 320–330.

Pernille Bjørn, Ph.D. is Associate Professor at the IT University of Copenhagen, Denmark. When initiating this paper she served as Post Doctoral Fellow at Simon Fraser University, BC, Canada. Her main research interest is to investigate how people collaborate within complex work arrangement aiming at developing concepts useful for the design of collaborative technologies. She has conducted multiple ethnographic studies of collaborative work practices in different domains of healthcare as well as in large global organizations. Pernille's work has been published in *Information System Journal*, the *Journal of Computer Supported Cooperative Work*, *European Journal of Information Systems*, *International Journal of Medical Informatics*, *Scandinavian Journal of Information Systems*, and *IEEE Transaction on Professional Communication*.

Nina Boulus, Ph.D is an Assistant Professor at the IT University of Copenhagen, Denmark. Her research interest concerns ethnographic studies of technologies in various settings, including healthcare technologies as well as e-voting technologies. She is also interested in methodological debates about ethnographic approaches in general and action research in particular.