The Action Research Project

- an Endangered Species in Scandinavian IS Research?

Jesper Simonsen

User-Driven IT Innovation, Roskilde University simonsen@ruc.dk

Abstract. Is the Scandinavian collaborative research practice and tradition for conducting action research projects threatened? In this article, I contribute to a debate on this concern. Action research is without doubt an exciting and relevant research strategy for IS, but a recent trend to "treamline" PhD programs and to comply with international research publication traditions seems to introduce critical challenges: (1) Action research is a very time-consuming way of producing empirical data and there is a high risk for the project not evolving as planned, which might lead to the failure of acquiring the empirical data. (2) Action research is also personally demanding and challenging because it entails a close engagement and commitment with collaborating industrial practitioners. (3) Action research might be a risky and ineffective career strategy in terms of obtaining research publications within a short period of time. I provide a framework for action research projects and contrast action research to the case study research approach. I present the above mentioned challenges of action research and give examples from my own experiences. Finally, I try to describe some possible ways for PhD-students and their supervisors to cope with action research.

1 Introduction

Scandinavian information systems (IS) research is internationally recognized for its tradition of collaborative practice by combining action research, experiments, and practice studies in close collaboration with practitioners from industry (Mathiassen, 2002). Recently, Mathiassen and Nielsen (2008) published an analysis of this tradition in the Scandinavian Journal of Information Systems (SJIS). Mathiassen and Nielsen (ibid) discussed collaborative practice research in terms of 'engaged scholarship', a concept from Van de Ven (2007) addressing the collaborative engagement of academics as well as practitioners. This engagement is characterized as "a relationship that involves negotiation and collaboration between researchers and practitioners in a learning community; such a community jointly produces knowledge that can both advance the scientific enterprise and enlighten a community of practitioners" (Van de Ven, 2007, p. 7). They reviewed all articles published in SJIS and described how engaged scholarship in Scandinavia has included a variety of collaborative approaches with action research as the most dominating. They raise the concern that "there appear to be counter forces through which we might be seriously weakening the privileged status that engaged scholarship has had in Scandinavia so far" (Mathiassen and Nielsen, 2008, p. 13): These counter forces include a strong push across Scandinavia to comply with international research traditions (especially adopted from US) including publishing in international journals as opposed to for example academic books for practitioners.

I share this concern and in this article I attempt to contribute to a *debate* on how the action research project – as a major activity constituting collaborative practice research and engaged scholarship within the Scandinavian IS research community – is a possibly endangered species.

The objective of this article is not to explain action research in detail, provide methods for conducting action research, or to review the literature on action research. The *purpose* is to discuss some of the conditions and challenges that especially young Scandinavian researchers and PhD-students face when trying to engage their scholarship by conducting action research projects. A secondary aim is to stimulate to a debate on how young researchers and their senior supervisors can cope with action research projects.

The article and overall argument is structured as follows: *First*, I briefly introduce the notion of action research projects and their relation to case studies. I present a framework for action research projects indicating a continuum of different levels of responsibility for project activities that the researcher can undertake. This framework is exemplified by briefly describing four of my own action research projects. *Second*, I present three challenges that I have experienced as occurring especially in relation to action research: (1) that action research is a time consuming and risky approach that might be hard to manage; (2) that action research is personally demanding and challenging; and (3) that action research is an inefficient publishing strategy for obtaining a high volume of research papers published in a short period of time. *Finally*, I outline three different choices that one have concerning conducting action research or not and I indicate a possible way for PhD-students and their supervisors to cope with action research.

The contribution in this article is based on reflections on my own *personal experiences* of conducting action research since 1991. Almost all my research is action research based and include 18 projects conducted in collaboration with in total 13 different Danish and international organizations. I give examples of some of these projects in the following section. In the sections describing the three challenges, I communicate my experiences by means of vignettes in terms of short 'scenes' that describe situations exemplifying the challenges. The vignettes represents my personal experiences as I recall these situations from various current and previous action research projects.

2 A Framework for Action Research Projects

Action research aims at solving practical problems while expanding scientific knowledge (Baskerville and Myers, 2004). Action research can be defined as "an iterative process involving researchers and practitioners acting together on a particular cycle of activities, including problem diagnosis, action intervention, and reflective learning" (Avison et al., 1999, p. 94). Action research has been a very popular way of conducting qualitative IS research in Europe (Avison et al., 1999) and particularly in Scandinavia (Mathiassen and Nielsen, 2008), where action research often is combined with practice studies and the conduction of interventions and experiments evaluating different types of guidelines, standards, methods, techniques, or tools (Mathiassen, 1998; 2002). The relevance of action research has met a recent revival in papers and debates on design science (Hevner et al., 2004; Iivari, 2007; (Pries-Heje and Baskerville, 2008). IS research within design science has the objective to "develop technology-based solutions to important and relevant business problems" (Hevner et al., 2004, p. 83). Design science view the research agenda as iterative processes of

A good place to start a review of the IS literature on action research is Michael D. Myers' list of references on action research updated on aisnet.org. Direct link: www.qual.auckland.ac.nz/action.aspx.

developing/building and justifying/evaluating theories and artifacts (Hevner et al., 2004; Pries-Heje and Baskerville, 2008), and "[m]any authors associate design science with action research" (Iivari, 2007, p. 53)².

My research is within the Scandinavian systems development research tradition emphasizing method development for IS practitioners (a similar research interest is known from e.g. Andersen et al., 1990; Mathiassen, 1998; Dittrich et al., 2005). I have conducted empirically based research on participatory design focusing on how IS practitioners can cooperate with users and their management especially relating to the clarification of goals, formulation of needs, and design and evaluation of coherent visions for change (Kensing et al., 1998a; 2004; Bødker et al., 2008). My action research has been in close collaboration with practitioners from industry and included ethnographically informed practice studies and experiments (as mentioned above).

Action research may be compared to another highly popular qualitative research approach, the case study (Myers, 1997). Case studies can help the researcher to understand a phenomenon and also use this insight to construct theories, approaches and artifacts. A main characteristic of action research, compared to case studies, is that action research aims at deliberately intervening with the subject of the study. Action research has the same goals as case studies but in addition, action research aims at changing and improving the phenomenon in question. Thus action research can be characterized as uniting three goals: To understand, to support, and to improve: "First, our understanding is based on interpretations of practice. Second, to support practice we simplify and generalize these interpretations and engage in design of normative propositions or artifacts, e.g. guidelines, standards, methods, techniques, and tools. Third, we change and improve practices through different forms of social and technical intervention" (Mathiassen, 1998, p. 20).

Action research and case studies differs in a number of pivotal ways. Action research and case studies both represent engaged scholarship research strategies that involve empirical inquiries investigating a phenomenon within its real-life context. A case study studies a phenomenon in terms of an instance or event – in IS most often an IT project or a period of IT use that has ended or which can be studied in parallel as it is carried on. The researcher observes and analyses the case and focus on human actions and interpretations surrounding the development and use of IT (Walsham, 1995). During a case study the researcher emphasize studying the case by observing, interviewing, etc. in principle without interfering the domain. Contrary to the case study approach, action research entails that the researcher openly and up front accept responsibility for specific activities during the project: The researcher deliberately interfere with the domain. The aim of action research is not only to understand and interpret (as in the case study) but also to improve and solve problems relevant to practice. The role of the engaged researcher in action research projects might span from being in charge of the overall project, as such, to being responsible for only a specific and minor part of the project activities. Let me present some examples on this span of different roles from my own action research projects (see figure 1).

In a research program developing a participatory design method, three action research projects was conducted in the *Danish Film Institute* (Simonsen, 1994). Our aim was to develop and experiment with different techniques and representation tools including ethnographically inspired techniques (Simonsen and Kensing, 1997). The organization's

For a discussion of the role of action research in design science and design science research, see SJIS special issue on design science, vol. 19, no. 2, 2007. An introduction to this discussion is given by Peter Axel Nielsen on his blog from June 1st 2009 (http://www.cs.aau.dk/~pan/blog/).

interest was to design IT-support for different departments. The organization agreed to participate in our experiments and in return the projects resulted in IT-design that was later procured and implemented by the organization and different vendors. The action research projects had the form of experimental participatory design projects. We undertook the role as project managers and we were in charge of all activities. Thus we had complete control on which techniques and representation tools to use and how to experiment with them. We were as researchers also taking on the role as the IT-designers in charge of the design project (Bødker et al., 2004). The organizations' management and staff acted as the users participating on our request – a situation which also characterizes other Scandinavian pioneering action research projects such as for example the Florence project (Bjerknes and Bratteteig, 1988) and the UTOPIA project (Ehn, 1988).

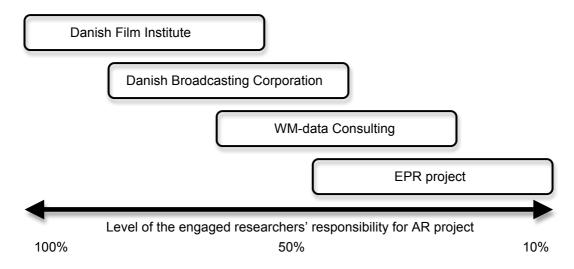


Figure 1: Four action research projects with the researcher having different levels of responsibility for the project activities

Some years later we conducted another large action research project also in form of a design project. At this time our research had resulted in a framework for a coherent participatory design method that we wanted to be tested and evaluated in a large industrial setting. The project was carried out in the *Danish Broadcasting Corporation* (DR) with the aim of designing IT-support for digital radio production (Kensing et al., 1998b). In this project we also had the role as project managers but the project group was in addition staffed with IT-designers and journalists from DR. We trained the DR staff in using the method and we jointly carried out all the project activities.

The action research project in DR convinced us that the method was useful – at least when we as researchers were in charge of using the method and conducting the design project. During the following years we conducted action research projects where we taught professional IT-designers in our method in order to evaluate the method when the IT-designers used it in commercial IT projects where we as researchers were not in charge of the project (Bødker et al., 2002). In one of these projects I taught the method to senior IT-designers at *WM-data Consulting*. They then used the method in an IT-design project for one of their customers (Simonsen, 2007). My role in the actual project was to supervise the designers (in between the meetings with the customer), and to participate as an observer

(during customer meetings). This way we shared the responsibility for the action research project while WM-data was in charge of the IT-project confronting the customer.

In some of my recent action research projects, the responsibility of the project has been even more divided. In a project experimenting with *electronic patient records (ERP)* at a hospital, the project activities were organized to four stakeholder groups (Simonsen and Hertzum, 2008): (1) the vendor was in charge of developing, implementing, and testing EPR solutions in terms of IT infrastructure and applications; (2) the hospitals' EPR unit defined the needs and desired outcomes from using the system and prepared the clinical department for participation in the experiment, including training of the clinical staff; (3) the clinical department (an acute stroke unit) constituted the test site and the clinicians' used the EPR system during the experiment; (4) we, as researchers, participated in the steering committee, facilitated the collaboration, participated in developing and refining the participatory design approach, investigated its initial use, and were responsible for evaluating the experiment. In this project the responsibility for the overall project was highly distributed leaving only exclusive responsibility to the researcher in terms of the evaluation of the use of the IT-system during the experiment (Simonsen, 2009).

3 Action Research is Time-Consuming and Risky

A prerequisite for doing a case study is that there actually exist a case to study. The case might for example be a project that has ended, and where the case study involves interviews with the participants of the project. In other words: If you find an interesting case you are ready to start your case study. The situation as very different with regard to action research. You are part of the action research project — it usually does not exist "out there" as an interesting empirical 'site' ready to study. An action research project must be initiated, established, and carried out before you have the empirical data for your research. This is both a time-consuming and a risky process.

Initiating a case study requires access to the empirical data, including that the involved organization and the relevant actors accept your study, allow you to make interviews, questionnaires, document analyses, etc., and allocate the resources needed for your study (contact person, that actors set aside time for your interviews, etc.). This is also required for action research projects, but in addition to this, the project itself must be established. The collaborating partners must, as a start, agree to your research ideas and agenda for the action research project. In other words, you must be able to "sell" your research ideas and goals and convince your partners that it is so interesting and relevant that they agree not only to be interviewed but to actually invest resources into a project in order to investigate and experiment with these research ideas. Especially the decision to prioritize and actually allocate the needed resources for the action research project can be a hard and time-consuming process.

"Through some of my close friends I got a contact to a large bank where we would like to conduct experiments in order to improve coordination and knowledge sharing by means of their intranet and groupware applications. First, we agreed to make an evaluation of their current use of the intranet (by means of interviews) and this resulted in a (case-study) report. Then, our contact person referred us to a new initiative (a large project) where they were interested in using intranet/groupware. Throughout three months we had meetings and presented project proposals while the project was getting staffed, managers appointed etc. After having agreed on the third version on our action research proposal the project was suddenly being given a higher and more urgent priority (by corporate management). Subsequently, our

action research project was refused due to the sudden panic where they got stressed even before the project was really up and going (learning parts were dropped in favor of getting to produce what was expected in time). At the same time the bank was facing red numbers on the financial fiscal report. This led to the consequence that it became impossible to engage in new projects – we were told. More than 6 months since we initiated what we planned should be an action research project we had to give up!"

In my experience, the establishment of an action research project in average takes no less than 6 months – and sometimes hard efforts invested in establishing an action research project does not result in a project anyways (as the bank example given above illustrates). In the WM-data Consulting project (indicated in figure 1), the action research project had to involve an overseas customer and the process of finding the 'right' customer for the action research project lasted almost two years.

Once the action research project is established you have to spend many resources in conducting the activities that you are responsible for. Of course, this efford is dependant on how many activities you are responsible for (referring to figure 1). If it is "your" project (i.e. you have proposed the project and the organization has accepted) it impose a great deal of project management activities on you. Such project management activities are usually very time consuming. It might be fun and instructive and it will without doubt provide you with relevant management experiences – but such experiences are seldom useful with regard to your academic career in terms of publication requirements (see section 5 below).

One of the obvious benefits of action research is the possibility to conduct projects that deliberately pursue your own research agenda's ideas and hypotheses. It might, however, be difficult to control the research agenda since research and development projects by nature are unpredictable but also because you are dependent on your industry collaboration partners. Two PhD's in a research program that I am currently involved in learned this "the hard way".

"A large EPR vendor and a healthcare region agreed to a research project with the aim of measuring and evaluating the effects of using the vendors healthcare IT products. They financed two PhD's for this purpose. The PhD's started by initiating an action research project where the vendor was to develop and implement a (relatively small) IT solution to be used in three different wards in three hospitals. The system was designed, developed, implemented, and taken into use in the first ward but after a few days the clinicians reported that the system functioned in ways that might compromise patient safety. During several months these problems were discussed and the result was that the project was terminated: The vendor did not want to spend the required resources in the system as they could not see a substantial sales potential in the solution - and it was considered to be too costly to invest the needed resources in what was considered just a minor research project. At this time one year had passed for the PhD's. One of the PhD's dropped the action research approach and turned to the safer choice of conducting a case study involving a questionnaire analyzing how clinicians used a commercial system that had been implemented in the hospitals some years before. The other PhD (an 'industrial PhD' who is required to do the PhD in collaboration with the vendor) started up a new action research project with another customer. In this project the vendor also under-prioritized the needed resources, and the PhD had to compensate by spending a lot of work doing project management and configuring and implementing the system. Again the customer was not satisfied with the solution and using the system (which was required in order to make the effects measurement for the research) was postponed. The healthcare sector in Denmark (where the project took place) subsequently went on a strike (due to salary dissatisfaction) which delayed the project for an additional 6 months. More than two years into this study the system was still not in use and the PhD-student had to re-think the entire PhD proposal in order to make a PhD within the time required for the project."

4 Action Research is Personally Demanding and Challenging

By definition you are involved and engaged in an action research project: You are an active participant; you have a role in the project; you have responsibility; and you are committed to certain activities and results. This is in contrary to case studies, where you observe the case being as unintrusive as possible or you investigate after-the-fact events, e.g. by interviewing participants having done a project already. In an action research project you have an active role and participate in the project as it unfolds and while the project activities actually happen: A main part of the project is 'your' project. Your role can span from being in complete charge of the project – as project owner and manager – to being responsible for portions of the project, like for example, the specific evaluations within the project.

What does it entail that you are actually *part* of the project itself? It means that you are personally responsible for achieving an outcome of the project that successfully can satisfy your research ambitions. In contrast to case studies you have a vital ownership and a definite stake in the project. This involves the following:

- You have an interest in the project, its process, and its outcome;
- You strive to obtain your interest through your role and influence;
- You are committed to the project and have a responsibility for seeing that certain parts of it are conducted with success.

Usually, the action research project is initiated by the researcher and he/she often hereby assumes a great interest in the project – taking on the formal or the actual responsibility as project manager. Here, the action research project can be compared with the researchers' little "baby" that carefully is nursed and protected.

"I carefully prepared my introduction to the research goals of the project for the kick-off workshop. The days before the workshop I was quite absent when doing other daily matters and could hardly think of anything else than my introduction. I felt enthusiastic and excited: It meant a great deal to me that the participants would understand and fully accept my research proposals. The night before the workshop I had difficulties falling asleep as I constantly was having a dialogue in my head going through and arguing for my ideas."

Being part of the project and having a direct influence on its direction and intended results is very satisfying indeed and might make you very proud and even somewhat euphoric! But, depending on your level of engagement, it can be very demanding and personally challenging. It may be difficult to let go of the project when you come home from "work". Concerns with the project might be hard to avoid as you are a major responsible part for ensuring project progress and finally success.

"Once again days had passed without any notice from them. I had to do something to keep things running...."

An action research project is usually initiated in a spirit of consensus by the initial project participants but during the project it is often necessary to "re-sell" your research ideas and goals to new involved or affected stakeholders. As an action research project evolves results might threaten certain stakeholders, and the researcher (you) might face conflicting situations which you are a part of.

"The action research project included that we designed IT support for the production manager and for the editors of the department. From the beginning, it was voiced that "everybody should be able to see all information in the system." After we had observed the editors for some time, they became confidential with us and suddenly – at a follow up interview – one of them entrusted in us that there was a (legitimate but manifest) conflict between the production manager and the editors: And complete openness of all information in the system would favor the production manager and weaken the editor's influence in the organization. We had to carefully contemplate how to bring up this issue without taking part in the conflict. We decided to present two alternative design proposals: One implicitly in favor of the production manager and one explicitly supporting the editors, who had confided in us. At a steering committee meeting the proposal supporting the editors was chosen – but not without controversies. Indeed, at one point, it led the production manager to suggest to the president of the organization that our detailed analysis of their work should be brought to an end."

Handling problems and adversity can personally be very challenging, and it may also be experienced as threatening your own ideas and interests. Practitioners and organizations collaborating in action research projects might not be very familiar or experienced with participating in projects that include a research agenda.

"The meeting really did not go as I had expected. I had prepared a presentation of the study so far focusing on the prospects and challenges of agile processes. But, the managers present at the meeting kept coming back to this issue of how to make a contract ensuring that the vendor could make sufficient profit without giving detailed descriptions of what the final system would look like. "We cannot sell rubber bands in meters", as one manager repeated twice during the meeting. This contract issue was not intended to be part of the action research project so far. Why can't they view this as research collaboration, as a learning experience, and not as a usual commercial 'product' to be sold for an ordinary customer? I was angry and could not get this meeting out of my mind for days. More than a year had gone since we began our collaboration and still they often revealed an astounding lack of comprehension of engaging in a research project aiming at learning. Behind my irritation was also an insidious fear that the critique was actually appropriate in the sense that the agile approach that I advocated was too academic and not aligned with reality? This threatened a core issue in my research idea Why didn't they just behave! My anger and frustration did not diminish until I had developed an idea for a special-case contract that could satisfy their needs without compromising my interests for conducting a research project."

Personally challenging situations are unavoidable in action research projects. And being able to handle them is a matter of both personal integrity and personal qualities that, to my knowledge, is not part of any university curriculum. It is a matter of being able to handle tasks involved in action research projects while also working for yourself and with yourself. It might sound easy – it is not. On the contrary, this requires a personal competence and maturity that few people master to a level of personal satisfaction. Personally challenging situations can provoke feelings of not having success, of being wrongfully opposed, of loosing own accountability or (even more extreme) a sense of guilt – that you are responsible. Your emotions might span from feeling anger, to great frustration, regret, and – as an utmost consequence – a sense of not being a successful researcher (in your own eyes).

5 Action Research is an Inefficient Publishing Strategy

During the last decade, researchers in IS has increasingly been under pressure to increase the amount of publications they produce. This pressure is these years being institutionalized in both Norway and Denmark by the creation of national bibliometric categorization systems in

which all public funded research publications must be recorded. The bibliometric system was first taken into use by Norway (imported from overseas) and later adopted by Denmark. The systems list the academic publication channels (primarily journals) that gives credit when you publish your research. The publication channels are ranked and a point score is then used to allocate governmental research resources to the universities. It might also make the assessment for a PhD-degree or a faculty position quite easy: Now you do not have to read the publications any more – you can just calculate the number of points and use this result for the assessment. This is of course a provoking stand. My point is, that we are facing an increasing 'quantification' of the assessment of academic positions. The discussions among PhD's are, as a natural consequence, often focused on "how many papers do I have to publish to get my PhD?"

Along with the increasing demands for making multiple publications, PhD's have during the last decade (at least in Denmark) increasingly been encouraged in many ways to complete their PhD in no longer than 3 years. A number of new rules for monitoring and evaluating the progress of the PhD-study has been enforced along with restrictions for extending the funding for PhD-positions beyond 3 years. The result is, that PhD positions in Denmark now are considered as being completed within 3 years as the general rule.

Pressure of completing the PhD within 3 years combined with increasing demands for high-volume publishing is not an optimal 'cocktail' for an action research approach which entails time-consuming and risky empirical work. A 'strategic' and 'wise' choice for a PhD-student is to stick to case studies of 'after-the-fact' projects conducted by means of questionnaires and interviews. Such studies avoid the risk of being dependent on ongoing projects and enable you to quickly obtain empirical data that can outline the focus and conclusions and guide the choice of theories needed for proper interpretation and explanation. This would – however – also ad to the current concerns for the future of Scandinavian collaborative research practice. Case studies enrich a 'looking-from-the-side' viewpoint of IS and does not provide the researcher with the insights and experiences of actually 'being-in-the' IS situation. Action research provide first-hand experiences that are pivotal in order to develop models, methods, and normative guidance that are relevant and operational in practice. In other words, action research is an efficient research approach to develop knowledge that is truly usable for IS practitioners.

6 Conclusion

Action research enables you, as a researcher, to be a 'part of the game' and not just to stay as an observer of IS practices. Action research entails making projects in close collaboration with industry practitioners. This can enhance valuable networks with practitioners and develop relevant insights and competence regarding IS management and practice. But, such knowledge is not fostered without having the researcher facing at least three challenges that are inherent for action research. (1) Action research is both time-consuming and risky. Establishing and managing action research projects is very resource demanding and there are considerable risks that the action research project fails (for example by never really get established) or end up following an endeavor not suitably for obtaining the original research goals. (2) Action research is personally demanding and challenging owed to your interest, betrothal, and responsibility in the project. Dilatory progress, problems, conflicts, or adversities trigger feelings of frustration, anger, regret, and might lead to a sense of guilt and

incapability. (3) Action research is not an efficient strategy if your goal is to produce as many papers as possible during a few years time. This is an expectation, fostered by contemporary trends in research performance measurements that impinge on PhD-students from day one. Facing the combination of the above mentioned three challenges, the researcher – and especially the PhD-student – have, in principle, three choices:

- The choice of defiance: Ignore them and conduct action research anyways. Being defiant is an intriguing choice which probably is wiser to take later on in your career.
- The rational choice: Drop it and wait. The rational choice might be the best way for a person who wants a PhD and conjectures that action research can be acquired later in his/her career after the PhD, or after obtaining tenure, or after getting a full professorship, or after ...
- The choice of compromise: This means conducting action research in collaboration with others in order to distribute the responsibilities for the project. This choice might be wise for the PhD-student, as well as other researchers, who want to become an engaged scholar and who believe that action research is too important in spite of the challenges this approach imply.

Specific support is probably necessary to ensure that PhD-students will continue to find it attractable to engage in action research. PhD-supervisors and fellow senior researchers need to promote the compromise choice for PhD-students and to help PhD-students' getting a favorite role in action research projects. I suggest letting senior researchers establish and manage main parts of the action research projects in order to provide appropriate conditions for the PhD-students seen in the light of the challenges they face. With reference to figure 1 this means that the PhD-student can get a role in the right side of the responsibility-continuum, as in the example with the EPR project where we, as researchers, had reduced our exclusive responsibilities to evaluating the experiment. The PhD-student may be assigned the responsibility only for such specific parts of the action research project with direct relevance for the PhD project, e.g. introducing and evaluating (in a broader project context) a specific technique, technology, or the like.

Having the supervisor co-partitioning in the action research project also bestows better means to identify, handle, and remedy personally challenging problems and conflicts. It is unavoidable that action research researchers face such demanding situations. Unfortunately, we are rarely able to act upon them. It is my hope that this article, as a humble beginning, might inspire us articulating, and addressing also this part of the required integrity, competence, and professionalism, no matter what the research project might bring, in order to master action research.

The efforts that action research projects call for are voluminous and – unfortunately – to a less extent appreciated in the academic publication reward system. We should not silently ignore this trend but use our influence to support and promote publication channels aiming at communicating more directly with practitioners. As observed by Mathiassen and Nielsen (2008, p. 13) "If we continue to de-emphasize academic books for practitioners, engaged scholarship will undoubtedly suffer" (ibid, p. 13).

References

Andersen, N.E., Kensing, F., Lundin, J., Mathiassen, L., Munk-Madsen, A., Rasbech, M. & Sørgaard, P. (1990) *Professional Systems Development: Experience, Ideas and Action*. Prentice-Hall, New York.

- Avison, D., Lau, F., Myers, M. & Nielsen, P.A. (1999) Action Research. *Communications of the ACM*, 42, 94-97.
- Baskerville, R. & Myers, M.D. (2004) Special issue on action research in information systems: making IS research relevant to practice-foreword. *MIS Quarterly*, **28**, 329-336.
- Bjerknes, G. & Bratteteig, T. (1988) The memoirs of two survivors: or evaluation of a computer system for cooperative work. *Proceedings of the 1988 ACM conference on Computer-supported cooperative work, Portland, Oregon,* 167-177.
- Bødker, K., Kensing, F. & Simonsen, J. (2002) Changing Work Practices in Design. In *Social Thinking Software Practice*, (Eds, Dittrich, Y., Floyd, C. & Klischewski, R.) MIT Press, Cambrigde, Massachusetts, pp. 267-285.
- Bødker, K., Kensing, F. & Simonsen, J. (2004) *Participatory IT Design. Designing for Business and Workplace Realities*. MIT press, Cambridge, Massachusetts.
- Bødker, K., Kensing, F. & Simonsen, J. (2008) *Professionel IT-forundersøgelse grundlag for brugerdrevet innovation (2 udg.)*. Samfundslitteratur,
- Dittrich, Y., Rönkkö, K., Lindeberg, O., Erickson, J. & Hansson, C. (2005) Co-operative method development revisited. *ACM SIGSOFT Software Engineering Notes*, **30**, 1-3.
- Ehn, P. (1988) Work-Oriented Design of Computer Artifacts. Arbetslivcentrum, Stockholm, Sweden.
- Hevner, A.R., March, S.T., Park, J. & Ram, S. (2004) Design Science in Information Systems Research. *MIS Quarterly*, **28**, 75-105.
- Iivari, J. (2007) A Paradigmatic Analysis of Information Systems As a Design Science. *Scandinavian Journal of Information Systems*, **19**, 39-64.
- Kensing, F., Simonsen, J. & Bødker, K. (1998a) MUST: A Method for Participatory Design. *Human-Computer Interaction*, **13**, 167-198.
- Kensing, F., Simonsen, J. & Bødker, K. (1998b) Participatory Design at a Radio Station. *Computer Supported Cooperative Work*, 7, 243-271.
- Mathiassen, L. (2002) Collaborative practice research. *Information Technology & People*, **15**, 321-345.
- Mathiassen, L. (1998) Reflective Systems Development. *Scandinavian Journal of Information Systems*, **10**, 67-118.
- Mathiassen, L. & Nielsen, P.A. (2008) Engaged Scholarship in IS Research The Scandinavian Case. *Scandinavian Journal of Information Systems*, **20**, 3-20.
- Myers, M.D. (1997) Qualitative Research in Information Systems. MIS Quarterly, 21, 241-242.
- Pries-Heie, J. & Baskerville, R. (2008) The Design Theory Nexus. MIS Ouarterly, 32, 731-755.
- Simonsen, J. & Hertzum, M. (2008) Participatory Design and the Challenges of Large-Scale Systems: Extending the Iterative PD Approach. *Proceedings of the 10th anniversary conference on Participatory Design: Experiences and Challenges, September 30 October 4, 2008, Bloomington, Indiana, USA*, 1-10.
- Simonsen, J. & Kensing, F. (1997) Using Ethnography in Contextual Design. *Communications of the ACM*, **40**, 82-88.
- Simonsen, J. (1994) Designing Systems in an Organizational Context: An Explorative Study of Theoretical, Methodological, and Organizational Issues from Action Research in Three Design Projects. Ph.D. thesis, Writings on Computer Science No. 52, Computer Science Department, Roskilde University, Roskilde, Denmark.
- Simonsen, J. (2007) Involving Top Management in IT Projects: Aligning Business Needs and IT Solutions with the Problem Mapping Technique. *Communications of the ACM*, **50**, 53-58.
- Simonsen, J. (2009) The Role of Ethnography in the Design and Implementation of IT Systems. *Design Principles and Practices, an International Journal*, **3**, 251-264.
- Van de Ven, A.H. (2007) Engaged Scholarship: A Guide for Organizational and Social Research. Oxford University Press, Oxford.
- Walsham, G. (1995) Interpretive case studies in IS research: nature and method. *European Journal of Information Systems*, **4**, 74-81.