



## Reflecting the methodological toolbox in studying ICT-related change in child welfare

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### Abstract

Practice research combines an interest in describing, explaining and theorizing practice, using knowledge as a means of improving practice and collaborative participation in testing and exploring new ways of working. In this article we reflect upon the methodological challenges in studying emergent practice and use a study on ICT-related change in child welfare as an illustrative case. The dual role of practitioner and researcher and the importance of the collaborative research community are discussed. A particular focus is on ontological and epistemological perspectives and the different phases of choosing methods and theorizing throughout the process. By this we want to highlight how these happen in time and how studying emergent practices raises the issue of being a reflective scientist who proceeds abductively, asks questions and forms hypotheses during the process and acknowledges human as well as nonhuman agency.

**Keywords:** Practice research, agency, ICT-related change, implementation, semiotics, child welfare, researcher role

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## 1 Introduction

In this paper we draw upon practice research development within the practice research milieu of the Mathilda Wrede Institute. The Mathilda Wrede Institute (MWI) is a practice-research unit at the intersection of education, research and practice, the aim of which is knowledge development in social work. The institute operates on the basis of a written contract between the local municipalities, the university, polytechnics and the regional Centre of Expertise within Welfare Services. Thus, there are close relationships not only within the scientific community but also with the practice and the broader networks of the centre of expertise. Altogether these form a dynamic collaborative learning society. It is within this context that we reflect on the methodological elements in the research process.

To illustrate the methodological challenges within practice research in social-work we use a study (Koskinen, 2011a) of a child welfare unit where ICT-related change took place while a new client data system was implemented.

On a general level the background for this study is the development in the welfare services in Finland during the last few decades. Like in many European welfare states the reform of welfare services in Finland has been accompanied by the implementation of new forms of governance, including the introduction of managerial policies and procedures, also called new public management (Saario & Stepney 2009). As an elementary part of welfare services social work as a discipline and practice is interdependent of the changes in society and policy views. This also has implications for research. Hjørne et al (Hjørne & Juhila & Nijnatten 2010), emphasize that in the era of managerialism, dilemmas should be approached as empirical matters: how are they present, talked into being and negotiated in naturally occurring practices of street-level welfare work, and with what consequences? This is the challenge this study has aimed to take up. The study was performed within a street-level welfare service with a close connection to the collaborative practice research community, which offered the possibility to reflect on the methodology and theoretical perspectives. Our ambition therefore is to convey emergent research in a practice that is itself emerging.

We draw attention to the methodological choices and theoretical standpoints in the different phases of the research process. We first present the research site and research strategy, highlighting the collaborative element in negotiating the research with the street-level welfare office as well as the multifaceted data collection. Crucial here is the dual role of the researcher as a practitioner and a researcher. This dual role enabled a flexible data collection strategy but also put pressure on the theorizing phase and the organization of the data material. Initially the researcher had a practitioner role. Data was assembled during a four-month period 2008-2009 when a new client data system was adopted. By applying an action research frame the data collection strategy allowed a flexible approach in collecting data consisting of material produced when trying to manage the change, for example the work processes described together with team members. More theorizing took place after the intensive field period. The field period included close interaction with practitioners, while the possibility to continue on theorizing in the research milieu of the Mathilda Wrede Institute meant a close contact with other researchers and introducing a distanced perspective. A close connection to practice was also maintained. Hence, the dual role of researcher and practitioner changed throughout the process.

In highlighting the analytical phase of the research we strive to convey the flexibility of Layder's (1998) adaptive theory. We illustrate how the semiotic actant-model was used in organizing the data so that the period of change could be portrayed as a set of narratives. The period of ICT-related change on the street-level welfare service of child welfare is thus described through four stories. In presenting the findings of the study we examine the consequences that were detected during the ICT-related change, and in order to do this the concept of subject position is used. Finally, we scrutinize the methodological toolbox by summarizing the critical findings and the critical phases of the research project.

## **2 Research site, research strategy and data collection**

The purpose of the research project was to analyze a period of information technology change in a child welfare unit. The research questions concerned agency, how the

change affected social workers and other actors and their agency. More specifically the research questions concerned these points: How is the concrete work practiced in the child welfare unit during the change of the client data system? What actors are involved in the change? In what ways did the ICT-related change affect the actors and their space of agency?

## 2.1 Research site

Research was carried out in a small child welfare unit in the City of Helsinki and the period of systematic data assembling took place 1.11.2008 – 28.2.2009. During that time period the client data system was changed into a new in all the child welfare units in the city of Helsinki. The aim of this change was to get a specific application planned for the purposes of child welfare. In the planning of this new application both the organizational structures and the new child welfare act had been taken into consideration. When clients are considered, there are approximately 8000 clients in child welfare annually in the city of Helsinki. This figure for clients is from the year 2008 and the figures have grown since the new legislation.

During the implementation period of the new data system each social worker was responsible for transferring her/his own client registration into the new system. The old and the new system were in parallel use for approximately two months. When the implementation in autumn 2008 began, the new application was still under construction. The schooling in how to use the new system was therefore arranged in a test environment.

The staff of the research site consisted of six employees and a manager of the unit, who is also responsible for other units. There had been a shortage of personnel for a long period of time and the turnover was high. The unit had had no manager during the last year. The researcher of this study had deputized for a few months as a stand-in social worker in this child welfare unit before starting the field period for systematic data assembling. The researcher had a previous interest in issues related to documentation in the social services and was actively searching for a suitable research site. The data system change opened up an interesting and unique opportunity for the researcher to study the period of change in practice while working in the middle of the change with other practitioners.

The researcher combined the dual roles of a practitioner and a researcher in the research process. Undertaking the double-role was a conscious choice in order to experience the pressures of the work on a more concrete level. Before entering this field period, an agreement was made with the manager of the unit, that the researcher would continue her responsibilities with client work and combine the roles of a practitioner and researcher during a four-month period.

## 2.2 Research strategy

The research plan was discussed and formed in the negotiations with the research site before accessing the field. This offered flexibility during the field period so that the researcher could meet the needs of the unit and still keep her research focus. A loose methodological and theoretical frame was chosen to allow the researcher to assemble a multifaceted data collection. These were Action research and the concept of Agency. Choosing these as a loose methodological and theoretical frame was a conscious choice that would provide space for emergent methodological and theoretical perspectives. Pickering (1995, 21) uses the term tuning as a perceptive metaphor

when scientists tentatively construct the doings in research. This form of tuning also occurs throughout the process.

The choice in favor of action research as a loose methodological frame was grounded in discussions within the scientific community during the time when access to the field was prepared. An open approach to action research and to other methodological approaches allowed the use of several different approaches in action research (Dewey, 1997; Carr & Kemmis, 1986) as well as openness to other methodologies such as practice research in social work (Saurama & Julkunen, 2011) and expansive learning at work (Engeström & Rückriem, 2005). When action research is concerned, the practical and critical action research as defined by Carr & Kemmis were strongest present in the research process while the expansive learning was a crucial element in the collaborative practice research community in social work.

Initially the sociological concept of agency was chosen to play a central role in this research. Even though the motivation for this choice may have been grounded mainly in the researcher's intuition the concept has shown to be a good choice. As a result of theorizing during the research process this concept has revealed its multidimensional nature at the same time that it has opened up the perspective to look simultaneously at action and at the contextual structures within which action occurs. According to Archer (2003) and Layder (1998) it is important to look at the agency in relation to structures. These questions are methodologically demanding as Layder points out: "The whole point of a focus on the relations between agency and structure in research is to underline their simultaneous implication in each other – to trace their actual interpenetrations and linkages – and not to abandon this task because of a methodological problem." (Layder, 1998, 145)

However, agency is not only important in relation to structure, but also in relation to other agencies. In this perspective there is the need to point out the need to be open to nonhuman agency as well. In *The Mangle of Practice* Pickering (1995) discusses tuning as a form of dance of agency in which the performances of human and nonhuman agency come to the fore. Tuning works in both ways, on human as well as on nonhuman agency. "Just as the material contours and performativity of new machines (systems) have to be found out in the real time of practice, so too do the human skills, gestures, and practices that will envelop them" (Pickering 1995, 16). These views on the concept of agency connect the theoretical frame of this research to the methodological one and provide the strategy for our research.

### 2.3 Data collection

The field period of four months included two months time to prepare for data system change. During that time both the old client data system and the new one still under construction were in use. The last two months only the new data system was used in the client work. The old system could only be used to look at the old client documentation. After this four-month period of systematic data assembling the researcher continued in her role as a practitioner for one more year. After that the researcher moved to the research milieu of the Mathilda Wrede Institute which offered more space to concentrate on research without the pressure that is continuously present in the work of a practitioner. These arrangements had impact on the research process as the field was still open to the researcher for altogether over a year after the field period. The opportunity to move on to more distinct researcher role after that period of time was useful in analyzing the data and theorizing further.

The data material consisted of decisions made on various organizational levels as well as information and instructions addressed to social workers. This data was collected by participatory observation and included both formal and informal documents. Data consisted also of material produced when trying to manage the change. As there had been a high turn-over of social workers at this unit it was not clear who were the clients in the child welfare unit. To be able to transfer the client information to the new data system there was an urgent need to clarify the clientele. Therefore data included concrete material in the form of different kind of informal and formal lists of clients that had been created and used by previous workers. These were examined and compared with the information in the old data system.

While producing knowledge on the state of active clients, there was also a need to build up a new system for distribution of work tasks. The documentation created while developing this system was also included in the data. As practically the whole team was new there was a need to define the work assignments more clearly and for that purpose work processes were described together with team members. These tasks fit the research frame and the researcher therefore took responsibility of doing these together with the team members. These processes and observations were included in data. Thus, the data gathered in the form of participative observation describes not only the data system change but also the everyday work in a unit of seven members of staff that received approximately 3 – 5 new notices of child welfare cases a week. Additionally the researcher's diary and reflections during the process were included.

### **3 The analytical phase of the research**

Layder (1998,25) points out that theorizing is a necessary element of the research process in all its phases. Concerning our case the elements of theorizing became more actively present in the last part of the research. Still, the researcher had through her previous studies and working experience many theoretical lenses that were used while observing, gathering data or taking an active role in the middle of the ICT-related change. In that sense the theorizing was present all the time in the double-role of the researcher-practitioner and the choices she made. In this chapter we shall highlight the different phases and choices that were made.

#### **3.1 Organizing and analyzing the data**

The data in this study consisted of various elements of different character, therefore its manageability was not good to begin with. The data was rich and interesting but hard to handle. The dual role complexity of practitioner and researcher put a particular pressure on this phase. As the researcher was internally and emotionally involved with the data, it was, on one hand, important to structure the data carefully. Illustrations and tables of several kinds were used in order to search for what scientific tools might be suitable. In the first phase the time frame for systematic data collection was used for arranging the data: documents and themes of discussions were arranged according the specific dates. On a concrete level a matrix was created and the data was organized within that matrix. Material with facts and dates but also the central elements of ongoing daily activities of the unit, were structured into the matrix.

While using the matrix approach described above the researcher kept on a parallel process of drawing and painting as she had a formal training in using expressive forms of art. By using this artistic approach the researcher made a systematic use of

her emotional connection to the data. This is one possible way of processing the becoming of the human and the nonhuman elements (Pickering & Guzik 2008, 8) in practice and not narrowing them down to purely scientific knowledge. Pickering argues that from an ontological perspective science itself may appear as a veil clouding our perception of how things actually are. By looking at these different organizations of the data, the systematic and the artistic, the researcher gained insight through theorizing that the data was able to tell many stories and many of them were laden with values. This observation gave a basis for searching out tools for further analysis within semiotic sociology, as semiotics, the science of sign, teaches us how to think symmetrically about human and nonhuman agents. These views on agency and semiotics connect this study also with Actor-Network Theory developed by Bruno Latour (2005, 54), as he has pointed out that it would be “*fairly accurate to describe ANT as being half Garfinkel and half Greimas*” thereby combining ethnology and linguistics.

Semiotic sociology is a metatheory of the intelligibility of reality and about how reality is socially produced (Sulkunen & Törrönen, 1997). What is meant by intelligibility of reality is the interaction between meaning giving and interpreting, where not only descriptions of reality are produced but also values are placed in these descriptions. According to the theory, reality appears in texts or speeches, wherein speaker and receiver positions are constructed. In texts, agents are continually coming into being, fading away, moving around, changing places. Semiotics thus offers the possibility to break away from rigid categories (Pickering 1995, 13). Latour (2005, 55) points in the same direction as Pickering when he considers that narrative elements in ANT offer *freedom of movement*. After the decision in favor of the semiotic sociology the actant model (Korhonen & Oksanen, 1997, 57; Laine & Saurama, 2009) was used to construct the stories that described the period of change (Figure 1).

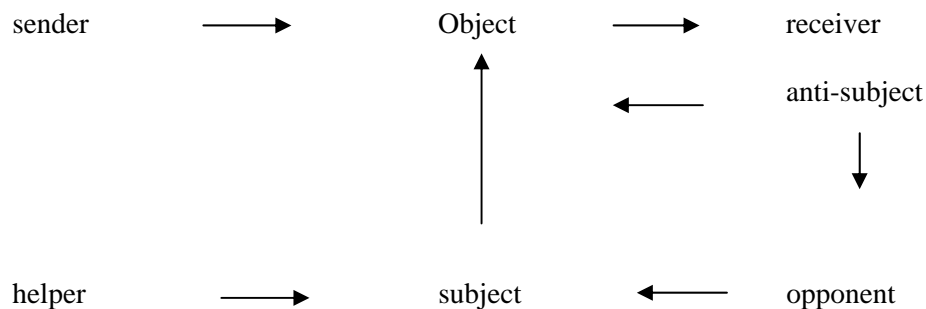


Figure 1. The actant model

The concept of actant refers to a category of relations that is common in all narratives. The core of the model is the relation between a subject and an object; the other actors are grouping around these central actors. There is usually a sender who gives the subject a task, motivating the subject to reach for the object and defining the values for action. Other actors either have a helping or resisting role. Latour (2005, 144-

150) emphasizes that if entities act, they also leave some trace that contains information. According to Latour a good description of these traces needs no explanation and no theoretical framework. In this sense the use of the actant model in this research has functioned as a way of describing traces. This part of the analysis resulted in four different intersecting and parallel stories each with a specific theme.

### 3.2 The use of theory – a brief discussion on the theoretical lenses

In the choices made before the field period, action research and the concept of agency were present. The actant model was in previous section described as a tool for constructing the descriptive stories. The actant model is not considered so much as a theoretical lens but more as a way of organizing data for further analysis (Sulkunen & Törrönen 1997). Even though this is the case, the actant model has a strong theoretical base in linguistics and semiotic sociology and thus provides for a theoretical lens.

To find out what values were present in the practice of a child welfare unit the descriptive stories were constructed and analyzed further. This phase made use of Layder's Adaptive theory. According to Layder (1998, 25, 178), flexibility in adaptive theory means that there is room for counter-arguments during the research process should changes be required. The use of adaptive theory allowed the data to filter through into theoretical material that had been considered to be relevant.

The practical activity while collecting the data was not guided by the knowledge of Actor-Network Theory (Latour, 2005). It was in the phase of theorizing after the field period when this approach and its applications especially in ICT-research first became more familiar for the researcher. Even though this was the case it can be concluded that the researcher's openness to the phenomena present in the period of change has many similarities to how Latour describes the core of Actor-Network Theory. Latour (2005, 142 - 143) points out that ANT:

*“is a theory, and a strong one I think, but about how to study things, or rather how not to study them – or rather, how to let the actors have some room to express themselves. - - It all depends on the sort of action that is flowing from one to the other, hence the word ‘net’ and ‘work’. Really, we should say ‘worknet’ instead of ‘network’. It’s the work, and the movement, and the flow, and the changes that should be stressed.”*

As the A:s of Adaptive theory and Actor-Network Theory are added to the previously presented A:s it can be concluded that this research made use of altogether five theoretical A lenses. Detecting these A:s as having been integral to the research process could be used as a metaphor for what happened when first looking at the chaotic, multidimensional data of this research. Without really being conscious of the tools we use, the data may activate our knowledge of some tool or a theoretical lens. The case of five A:s may remind us that we often use the alphabet, a very useful tool, or should we say, a theoretical lens, without being aware of it. The same goes for many theoretical lenses. This episode gives an example of how this research trajectory was not given in advance, but also of how ideas are formed and created during different phases.

## 4 Four stories describing the ICT-related change

The organizing of data with the actant model resulted in four parallel, intersecting stories. These stories form the descriptive part of the results. Constructing four sto-

ries, the actors of each story were accordingly also arranged into matrices. Through this visualization it became more explicit how the actors related to each other and what kind of tension there was between them. The story telling tone was thus combined with other levels of expression which allowed further analysis. On the basis of these descriptive stories more theoretical analysis using the concept of agency took place.

#### 4.1 Leading social work in child welfare with decisions, instructions and directives

The first story describes how social work is managed in child welfare with decisions, notices and directions. According to the actant model the basic line of the story can be told by using the roles different actors play. In this story the social worker (subject) is given a task (object) to adopt the new client data system. This task is given by the management of the organization (sender) which also provides for support in the form of the data system project group (helper). The task (object) is hard to perform as there is a lot to do as well time pressure in work (opponent). Performing the task is also hindered by the unclear work practices (opponent) due to staff changes (anti-subject). Also the additional tasks (opponent) and changing and incomplete instructions (opponent) concerning the data system change complicate the social worker's (subject) task (object). When the story is put into a time frame there is a change of roles. The social worker (subject) does not succeed in performing the task (object) the management (sender) has given. The social worker (new sender) therefore gives herself/himself a new task (new object) to adopt the data system in the applied manner that suits the realities of the work. In this story the social worker (subject and new sender) and her/his task (object and new object) to adopt the new client data system is also confronted by the social workers basic task (anti-subject).

In this story organizational responsibilities percolate down to the horizontal level. In the practical activity the social workers had no say as far as the implementation of a new client data system was concerned. The timetable was given and the system that was still under construction was adopted. At the same time the social worker's basic task, to produce child welfare services was present throughout. Time limits had to be met according to legislation and urgent child welfare cases had to be taken care of without delay. During this period of change the social workers were forced to take the responsibility for choosing which of their increased duties they would leave undone. As these decisions were not made at the managerial level, each social worker was forced to find his /her own way of prioritizing the tasks.

#### 4.2 High turnover of personnel and its consequences for work practices

The second story illustrates the situation where a high turnover of staff had consequences for work practices. The whole team of seven was practically new in autumn 2008 when the practical preparations for the data system change led by the central organization began. This working team had suffered from labour shortage and from a high turnover of social workers for several years. Even if this was an extreme situation, these kinds of problems are not uncommon in Finland as the statistics suggest (Kumpulainen, 2009). During this period of change the personnel situation slowly improved as the team acquired a new manager in autumn 2008. There were also some developmental resources used in order to support the new team.



As well as being the target of legislators and organization management, a social worker is also expected to lead the processes in child welfare. This results in backlog situations at work and many responsibilities. Due to these factors there is little space left for reflection, which is a central element in social work. In this research the new data system took the role of actor by requiring and enabling certain detailed processes. In situations where there is e.g. a limited number of staff the advantages of a new client data system were partially wasted and also had negative effects on the basic task. Already in the short period of time when the new data system was in use, it had formed the work processes so that the formal procedure was more central at the cost of content. This was the case as the system was used by social workers who were too few in number to cope with a laborious and time consuming system as a part of their work. The negative effects may be cumulative as the system has many measuring functions that are used by management. As the system demands, more action is directed to empty procedures that produce fine statistics. Meanwhile the child may not receive the protection she/he needs. In this multifaceted data the child's voice could not be heard.

#### 4.3 The implementation of the Child Welfare Act in organizational context

The third story is about legislation. The new Child Welfare Act was enacted in Finland on 1<sup>st</sup>, January 2008. In comparison to the previous law this Act emphasizes the role of the social worker as responsible for leading the client processes. There is also a strong emphasis on documentation that is embedded in the detailed child protection process. This story consists of two parallel stories, the ideal one – how the legislator had planned the process and the other that describes the actual process when the new Child Welfare Act was put into force in the organizational context during the data system change. As both the ideal story and the actual story were constructed with the same actant model the differences between them became obvious. In the ideal story there are no actors who play a resisting role. The story describing the actual process, however, reveals many signs of resistance. The most central aspect of this story is the changing role of the new data system. The new system that was meant to become a tool for social workers stepped down from this role during the first phase of implementation. The data system and many activities related to it were revealed to have a resisting role. More problematic though was the move that followed.

Using the concepts of the actant model the new data system took the role of a sender. In this role the data system gives social worker (subject) the task (object) that has to be performed. The data system is constructed in such a way that a certain process has to be followed. In order to be able to move forward, for example when making decisions and trying to meet the deadlines, the social worker needs to perform each phase of the process. When there is no time to use the system to its' full potential, the writing of an individual plan for a child might be replaced by a short sentence: the plan is done later. For statistics, which are effectively collected by the data system, this provides the misleading information that an individual plan has been made. Since the social worker resources did not match the time needed for the new system, the system itself became central at the cost of the content. This transition was clearly visible when the actors were placed into a matrix.

#### 4.4 Children and clients in databases

The fourth story is about children in client databases. As the situation with staff in this team had been chaotic for a longer time, the information about children in the old client database was patchy. The new client data system could in an ideal situation have strengthened the children's position in databases. In this story this was not the case as the data system implementation involved problems, as mentioned earlier.

As this last story describing the period of ICT-related changes was constructed by using the actant model, many senders could be detected. All these senders were giving the task and the responsibility to collect and process the information of clients/children (object) to the social worker (subject). The first sender was the legislation that had to be taken into consideration in social services and furthermore the specific legislation in child welfare. The second sender was the organization, the city of Helsinki, being responsible for the implementation of the new Child Welfare Act. This sender provided for the new data system (helper) that would steer the way client information is handled so that legislation and organizational policy is followed. The third sender was professionalism and the demands social work as a profession is putting on for example documentation in child welfare. In concrete work of the unit this issue raised a lot of discussion as the ways of writing are linked to personal skills and styles. Finally, a fourth sender was the client, a child whose life was documented by the information. The many senders in this story illustrate how many duties and responsibilities are involved, and what backlogs can occur when a social worker is the only subject of this story.

### 5 Scrutinizing the methodological toolbox

Our starting standpoint was that the methodology of a research study may be seen as a set of tools. By using the term tools we wish to elucidate the fine tuning of methodological and theoretical choices that are made in researching emergent practices. It brings the doings to the fore as well as the position of the researcher. In this chapter we scrutinize the findings of the study and the chosen theoretical lenses as well as the critical phases in the research process.

#### 5.1 Critical findings and consequences

Analyzing the agency of social workers was initially planned while entering the field. The research focused on gaining insight into a real-time understanding of how the actual work was carried out in the child welfare unit during the change of the client data system and what actors were involved. Agency as a multidimensional concept allowed for a broad approach incorporating both human and nonhuman actors. However, the relevance of also dissecting the data system as an actor became clear first during the field period. The research aims were originally focused on examining the social workers' agency and how the work was practiced during the period of change. It was through its role in a real-time setting that the relevance of dissecting the data system as an actor became clear for the researcher. This can be illustrated by referring to concrete examples from the data. When the old system could no longer be used, social workers in the researched unit began to use the following expressions: *the new data system demands, system won't let you go forward unless...* The data revealed many levels of confrontation between the social worker and the new data system. On the basis of this these two actors were discussed and their agency theorized. This also

gave the basis of theorizing on social workers space of agency (Alasuutari, 2007; Svensson et. al. 2008). Even though the research was done in a child welfare unit, the child remained silent in the stories or was narrowed down to a remark or to a text in the database. In order to better understand why this was the case the child's agency was analyzed in the same way as the agency of social worker and the data system.

After having used the actant model in constructing the stories it was natural to develop the analysis further from a semiotic perspective. The concept of subject position (Törrönen, 2000) was used to look at all the actors (social worker, data system and child) in terms of the spatial, temporal and positional aspects of their agency. According to Törrönen (2000, 243) subject position can be understood as a synthesis – a pot-pourri – of subject positions that do not have a predefined relation to each other and which cannot be solidified into a stable unity. Törrönen (2000, 248-250,253) has argued that subject position is constructed in communication as a joint effect of three elements. Firstly, the spatial aspect can be detected as speakers use different categorizations and classifications when articulating and locating their values in relation to others. Secondly, the temporal aspect aims at finding out what values are born within categorizations. The social worlds that carry these values are settled into historical continuums by constructing story lines. How the subject position is attached to the temporal aspects of values, can be studied for example by using pragmatic modalities. Finally the third, positional aspect involves looking at how the categories and story lines are proportioned into specific structures, point of views and forms of interaction.

Using these three dimensions of subject position systematically in analyzing the three actors (social worker, data system and child) gave an opportunity to find out in what ways the findings in the data had a connection to previous research and background information, for example the new Child Welfare Act. As an illustration of this a tension could be detected for example concerning the child and the positional aspect of child's agency. There was competition between the child and information of a child in the database. The information about a child in the database was often prioritized at the cost of concrete meetings with the child. This was mainly due to the limited resources of the social workers who had an increased number of responsibilities on account of the new legislation and new organizational instructions. The positional aspect concerning the data system showed that the role of the data system had elements of control and regulation in its relation to social workers. The complex combination of a child-centered new legislation being implemented in a high turnover organizational context where also a new data system was implemented resulted in the child remaining silent.

The semiotic analysis thus functioned as a ground for further theorizing and for forming new hypotheses that could be tested. The results of this further analysis are presented in another article (Koskinen 2011b, forthcoming). The use of the subject position in this phase of the analysis enabled observations on the basis of data while at the same time the flow and the movement present in the data were not lost into too rigid categorizations (cf Pickering, 1995 and Latour 2005).

## 5.2 Critical phases of the research process

An emergent phenomenon in practice research in social work is the dual role of the insider researcher. The dual role can be a vehicle for creating new knowledge (Roth & Sandberg & Svensson 2004) but this requires a careful handling of the situation.

The possibility of reflecting on these roles within the scientific community throughout the process was crucial. The role duality periodically changed. Initially the researcher held the position of a practitioner but incorporated the study within her work as the new data system was introduced. This was a deliberate choice to gain deeper empirical insight, although it put more pressure on the analytical phase.

Schön's description of swampy lowlands matches the experience of the researcher during the intensive period of experiencing and researching ICT-related change in a child welfare unit:

*"In the varied topography of professional practice, there is a high, hard ground where practitioners can make effective use of research-based theory and technique, and there is a swampy lowland where situations are confusing "messes" incapable of technical solution. The difficulty is that the problems of the high ground, however great their technical interest, are often relatively unimportant to clients or to the larger society, while in the swamp are the problems of greatest human concern. - - There are those who choose the swampy lowlands. They deliberately involve themselves in messy but crucially important problems and, when asked to describe their methods of inquiry, they speak of experience, trial and error, intuition, and muddling through."*  
Schön (1983, 42, 43)

Behind Schön's (1983) development of the model for the reflective practitioner was his recognition of a gap between the espoused theory (the ideas which we consciously believe we are working from) and the theory in use (the ideas which are embedded in what we actually do). His aim was to create a model by which professionals could develop their own practice theory by reflecting on their experience. By creating knowledge through reflection he was posing an alternative to the ruling epistemology which tended to privilege knowledge created through a more objective research process. In this sense, Schön's model becomes a model for both the improvement of practice but also for the creation of theory directly from practice experience. The methodological (action research) and theoretical (concept of agency) choices the researcher made before entering the field proved to be useful in many ways. Due to these choices it was natural in all phases of research to endeavor to learn more about different methodologies that could be useful in this particular research when searching for answers to research questions.

Along with the methodological approaches described above the researcher made use of her methodological toolbox after a long working experience in the social services. The varied education and different organizational roles of the researcher (e.g. assistant, coach, leader, expert, manager, supervisor) over a period of 20 years not only provided perspectives on how single phenomena detected in practice relate to more general developments but also supplied practical tools in order to take different initiatives during the field period in this research. Also exploring this kind of research opportunity might not be easy without sufficient understanding of how organizations and service systems function. Perhaps the most significant factor with this kind of experience is that it helps to recognize the critical moments when an active move should be made. Examples of these kinds of initiatives taken during the field period were to take an active role in describing the work processes in co-operation with team members and developing a new system for the distribution of work in the team. Analyzing the data and theorizing further the possibility of making use of elaborate su-

pervision was vital and has given nourishment to the work that needs to be done by the researcher alone. An important element in the analysis has also been the occasions when the preliminary results have been discussed with the staff of the studied unit.

It was a balancing act to make sense of the evolutionary character of the data produced and collected in the thick of things. The process challenged both ontological and epistemological perspectives and preferences. The whole process illustrates the importance of being a reflective scientist who processes abductively, asks questions and forms hypotheses during the process and acknowledges human as well as non-human agency. Certainly, this may be true to all forms of qualitative studies and AR in particular. We believe though that the doings and fine tunings throughout the process are seldom acknowledged from an ontological perspective. This also concerns the complexity of the dual roles within this process. It is not just a question of being a reflective practitioner, but also a reflective scientist and combining these roles in a distinct way. Sometimes this involves drawing back the veil of scientific knowledge and bringing in the emotional element in research.

This example of research may also be scrutinized through definitions of pragmatism. We started by looking at agency and clarifying human action in its organizational context. Who are the actors, what are they doing, what happens during the ICT-related change? A critical point is then how we look at action in the knowledge-production process. In what way is action a purpose and an object? We scrutinized the research process by using Goldkuhl's (2008) three forms of pragmatism: 1) Referential pragmatism describes the world, the activities and actions as well as the actors in it, and the conditions for and results of the actions; it is provisional knowledge, knowledge about action, which is the object. 2) Functional pragmatism views knowledge as a way of improving practice: practice is still in a state of becoming and knowledge should be useful. Knowledge is prescriptive in character. It is knowledge for action, the action being the purpose. 3) Methodological pragmatism is based on the fact that we learn about practice through action, and that the true nature of the phenomenon is revealed when we try to change it. It is prospective knowledge achieved through action, as action is the source and the medium.

The research presented here was a process which involved alternative periods of field practice and research – analyzing, conceptualizing and theorizing. The initial aim of the study was to acquire knowledge about action, and could therefore be categorized as referential pragmatism. The task was to achieve knowledge about actions (what the social workers did and did not do) intervening actors (the data system, the law etc) and receiving actors (what were the consequences for the client and the child). At the beginning of this study elements of referential pragmatism were more present; there was a practical need of knowledge for action. Towards the end of the study elements of methodological pragmatism became more strongly involved: there was a need to achieve knowledge through action. The aim was not to solely build and produce knowledge for a specific practice but to learn about practice through action, which revealed its true nature by having a constant connection to practice. The findings were also disseminated within the research site, and thus researcher's actions were both the source and the medium. To conclude, this research made use of a combination of referential and methodological pragmatism.

## 6 Conclusive comments

Practice research combines an interest in describing, explaining and theorizing practice (referential pragmatism), using knowledge as a means of improving practice (functional pragmatism) and active participation in testing and exploring new ways of working (methodological pragmatism) (cf Goldkuhl 2007, 2008).

The dual role of practitioner and researcher gave a common foundation for this study. However, this entails an interactive involvement both within the research site as well as within the research community. This is important for achieving substantial outcomes in knowledge creation.

The crucial issue in practice research is that this involvement is consistent throughout the research process and its different phases. In this case the researcher did not leave the field after the data assemblage but involved the practitioners in discussing the analysis as well as the findings. This emphasis on interaction and a balanced discussion between different parties enables change. In this article we have not discussed the dissemination phase of the study as that is in progress. Nevertheless, a common foundation (which does not necessarily mean a common understanding) is a crucial building block for effective dissemination.

Another emphasis we want to make is the broad understanding of the methodological toolbox. People change and gain meaning through interacting. The interaction enhances the process of co-becoming and co-evolution and converges methodological ambitions (cf Miettinen et al 2009; Julkunen 2011). The body of the researcher is too often a blind spot in science. The research process in this specific study was closely connected to practice, and the researcher proceeds abductively, asks questions and forms hypotheses during the process taken into account human as well as nonhuman agency. The methodological toolbox was thus not given in advance but formed during the process. This abductive process can be understood as intuition formed on practical experience and expertise but also as a central element in collaborative knowledge production.

In this study the researcher took an active role during the field period in describing the work processes in co-operation with team members and developing a new system for the distribution of work in the team. During the theorizing phase her active presence was not abandoned. On the contrary, her long practice experience enlarged her methodological toolbox, thus, recognizing and accepting the fact that emotional and practical experience is a necessary condition for developing a more connected knowing (Mezirow 2000; Fook & Askeland 2007).

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